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INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Boston Gets the Facts
Read 'Em and Weep
Facts and Conclusions
Getting Down to Brass Tacks
Does the Shoe Fit?

Story of the Week

Checking on the up-and-at-'em-ness of appliance salesmen in the Boston area, the Electric Institute of that city recently sent private investigators out to visit the various dealerships. These "shoppers" tried to buy various electrical appliances.

One "shopper" examined a washing machine in a certain department store. Peering at the label, he remarked:

"Never heard of this manufacturer."

Sneered the clerk:

"No? The manufacturer probably never heard of you, either."

Boston Gets the Facts

There's a laugh in that anecdote, but it's a grim one. 'T aint funny, sonny, when independent investigators prove what many of us have believed for some time: that appliance selling is done in reverse today.

Jack Waddell, a former Norge distributor who now heads the Electric Institute of Boston, hired Public Analysis, Inc. several weeks ago to "case" the appliance dealers in his area. He wanted to know how customers are being treated today.

These private sleuths "shopped" every type of appliance retailer—small dealers, department stores, furniture and hardware stores, chain outlets, and the specialty appliance dealerships.

In the guise of active buyers, these "shoppers" reported on the appearance of each store or appliance department, the courtesy and knowledge of the salesmen or clerks, the presence and effectiveness of windows and interior displays, and the use and effectiveness of merchandising methods and sales strategy.

Results were disheartening, but not startling. Specialty selling, the investigators agreed, seems to be a lost art.

Bright spot: In one specialty appliance shop, the proprietor really did a job on an investigator—who wrote out a check on the spot for an automatic washer.

Read 'Em and Weep

Following are a few examples of what the shoppers actually encountered:

During a refrigerator demonstration: "The salesman floundered through the demonstration, removed a shelf and couldn't put it back, opened the front of the refrigerator where he expected to find a vegetable bin, but found only the motor, and misnamed various parts of the boxes."

Shopping again for a refrigerator, the same analyst reported: "As soon as I asked for a refrigerator, the salesman said, 'I'm sorry brother, we're not taking any orders,' and started to walk away. I said, 'But I'd like to look at your (models).' He said, 'O.K., go ahead and look.' I could not contact him again until I was leaving the store."

A vacuum cleaner report: "The clerk did not bother to take the cleaner wholly from the box. He allowed me to push the upright type, but did not explain its operation."

"When I pointed out the small short bristle on the brush of one model, and said I thought they were

(Concluded on Page 8, Column 3)

Kansas City Utility May Curb Cooling If Load Jumps

KANSAS CITY, Mo.—Authority to restrict the use of electricity for air conditioning and comfort-cooling in this city and in parts of Jackson and Clay counties this summer—if necessary—was recently granted Kansas City Power & Light Co. by the Missouri Public Service Commission.

The utility had petitioned the commission for such authority on the ground that it feared it might be unable to meet all demands for electric energy during the air conditioning season. These demands, it said, would push power consumption past wartime peaks.

A spokesman for the utility emphasized that the move was purely precautionary and that "no restrictions may ever be evoked." He said the company has been able to meet all

(Concluded on Page 29, Column 1)

Store Modernization Show Runs July 7-12

NEW YORK CITY—Refrigeration and air conditioning as factors in store modernization will be among the featured displays at the first annual Store Modernization Show scheduled for Grand Central Palace here July 7 to 12.

Besides the show itself, six basic clinics covering all retail fields will be held during the week for retailers, announces John W. H. Evans, show director.

Some 60 exhibitors are planning displays, including commercial refrigeration and air conditioning firms. In connection with the show a contest for architectural students requiring modernization plans for a shopping center is being sponsored jointly by the show management and the New York chapter of the American Institute of Architects.

Modernization of retail appliance outlets will be emphasized at the

(Concluded on Page 29, Column 2)

Electric Air Filters Introduced by Trion

McKEES ROCKS, Pa.—Successor to the Pittsburgh Stove & Range Co., the newly formed Trion, Inc., recently introduced two models of its electric air filter at a reception here.

The filter, which operates on the principle of electrostatic precipitation, was shown to over 300 heating and ventilating engineers, builders, and industrialists who attended the reception, announces Paul W. Aitkenhead, president of Trion.

Designed for right or left-hand installation with connections on the top, bottom, or side, the unit is heavy enough not to require floor anchoring, the company said. When it is operated in conjunction with a warm air furnace or air conditioning system, the filter can remove dust, lint, pollen, germs, and other foreign properties from air passing through it.

(Concluded on Page 26, Column 3)

Allied Stores Reveal Dollar Volume Gains

NEW YORK CITY—Dollar volume sales of Allied Stores Corp. in the second quarter are running about 12% ahead of the same 1946 period, but two-thirds of the increase comes from higher price levels, President Earl Puckett has informed directors.

Unit sales are about even with the second quarter of last year, with one-third of the sales increases coming in appliances.

Prices Chief Topic Facing Summer Mart

25,000 Buyers & Dealers Expected at Chicago Showing July 7-19

CHICAGO — The Summer Homefurnishings Markets open July 7 and continue through July 19, with some 25,000 department and furniture store buyers and dealers expected to jam the American Furniture Mart and the Merchandise Mart to view the housewares and appliance displays.

"The main topic of conversation again will be the price situation," declares one press "advance" on the Marts. "In a few isolated cases, price adjustments have been announced, both upward and downward, but no general break is anticipated for several months. As a result, it is expected that no long-term ordering will be done."

Following the Winter Markets last January there was some "griping" on the part of those who held off

(Concluded on Page 4, Column 3)

Electromaster Ups Range Prices 5%

MT. CLEMENS, Mich. — Effective at once, an increase of approximately 5% on its electric range models is announced by Electromaster Inc.

The models effective were the "Banquet," advanced from $214.75 to $224.50 and the "Space Saver" from $146.90 to $154.50.

In making the announcement to distributors, Gerald Hulett, vice president, said, "even with the increased efficiency of our new plant, our anticipated production has been retarded by material shortages. This restricted volume combined with steadily advancing costs of raw material make the adjustment in prices inevitable at this time."

Washer & Ironer Prices Are Boosted by Apex

CLEVELAND — New and higher prices on its washer and ironer line have been put through by Apex Electrical Mfg. Co.

Washer prices are now $144.95 for the deluxe Model 373P, $134.95 for Model 390P, $129.95 for Model A20P, and $109.95 for 392P. Without pumps the prices run $10 less on each model.

The Apex 541C ironer has been increased to $179.50.

Conflicting Shows Called 'Headache' By ACRMA Head

WASHINGTON, D. C.—"Scheduling two major industry shows, the All-Industry Refrigeration and Air Conditioning Exposition and the Heating and Ventilating Exposition, within a few days of each other in two such widely separated points as Cleveland and New York is giving many prospective exhibitors a headache," said F. S. McNeal, president of the Air Conditioning and Refrigerating Machinery Association, in a statement issued from ACRMA's headquarters this week.

Problems of duplicating exhibit personnel and equipment and the resulting heavy financial burden were cited by Mr. McNeal as being among major objections aired by equipment manufacturers at the ACRMA Annual Meeting held recently in Hot Springs, Virginia.

"We certainly hope" concluded Mr. McNeal "that the sponsor-organizations of principal industry shows will make some arrangement so that the

(Concluded on Page 29, Column 1)

Conditioning Fire Code Changes Are Delayed

CHICAGO — Three proposed changes in the air conditioning code of the National Fire Protection Association have been referred back to the Committee on Air Conditioning for future action.

One suggested change would permit air conditioning or ventilating systems to be designed for removal of smoke. Other changes would prohibit the use of corridors and stairways in public buildings and multi-family residences as supply or return air chambers.

These proposed revisions in the code were presented by F. H. Faust of General Electric Co.'s Air Condi-

(Concluded on Page 31, Column 1)

Oregon Firm Organized To Make Refrigerators

CORVALLIS, Ore. — Organization of a new $250,000 corporation, Pioneer Refrigeration, Inc., to engage in the manufacturing of refrigerators in Corvallis is being announced here this month.

The corporation will be financed with $200,000 in common and $50,000 in preferred stock. Incorporators are C. E. Mariner, Mabel E. Mariner, Melvin L. Mariner, and J. H. Gallagher, all of Corvallis.

(Concluded on Page 32, Column 1)

Big Reservoir of Buying Power Is Shown In Survey

Federal Reserve Board Study Indicates Nature Of Spending In 1947

WASHINGTON, D. C. — There's still considerable buying potential left among U. S. consumers. But from the look of things, producers of durables stand to tap less of it this year than they did in 1946. In fact, 26% less.

Source for those contentions is a survey prepared for the Federal Reserve Board by Dr. Rensis Likert's Survey Research Center. A sampling of what the nation's families intend to do with their savings, spendings, and investments in 1947, the survey is considered a good indication of what industry can expect of the consumer this year.

Reason: Predictions based on reports from a similar survey a year ago were matched almost to the letter in the number of refrigerators, radios, washers, and other durables purchased in 1946.

Thus, in 1946 13,100,000 "spending units" (i.e. groups living under one roof pooling income to meet major expenses) were reported by the last year's survey as prospects for purchase of consumer durables other than autos. As it turned out, approximately that number did buy such durables.

> Discussing "Boom Days on the Farm" in the *New York Times* of June 1, Gilbert Bailey has this to say about the market for appliances in the rural area around Lafayette, Ind.:
>
> "According to one dealer who sells home appliances, the country people are ordering more refrigerators, home freezers, electric stoves, sweepers, and washing machines than the rest of the county combined, although they represent less than a fourth of the total population.
>
> " 'Two hundred orders in this one store for Bendix washers. All going to farm homes. Orders for complete General Electric kitchens —$1,700 units—to be sent out on the truck c.o.d. They want name-brand stuff, too. The farmer's market has changed.' "

This year the Likert Survey places the figure at 9,600,000.

As shown in the results of last year's survey the top 10% of the spending units at that time held 60% of all liquid assets, but only 3% of such assets were held by the bottom half of the income table.

Although about two-fifths of the spending units interviewed had increased their holdings of liquid assets and an equal number had decreased theirs, the increases were generally larger than the decreases. Thus, the 1947 survey discloses that personal holdings of liquid assets rose approximately $8 billion.

Among those groups that showed a drop in liquid assets the total withdrawn from past savings amounted to some $10 billion. Of this figure

(Concluded on Page 32, Column 1)

ASRE Given Gala Time at First Coast Meeting In 30 Years

LOS ANGELES—In the Wonderland of California, where the locals are prone to lay claim that they do things a little bigger and better, the 34th annual Spring meeting of the American Society Refrigerating Engineers, held June 9-11 at the Alexandria hotel here, came pretty close to convincing the 500 or more who attended that the natives are right.

The entertainment was elaborate —and at times unusual, the technical sessions were interesting and well conducted, and the guest speaker at the opening luncheon made the front pages of the Los Angeles newspapers.

The official actions taken were not extensive. The Toronto, Canada section of the A.S.R.E. was officially recognized; it was made official that the annual meeting this December will be in Atlantic City with the Philadelphia section playing host. It is also pretty well settled that the 1948 spring meeting will be at a resort in New England.

There was no announcement made concerning the filling of the office of secretary.

Speaker at the welcome luncheon was William M. Jeffers, vice-chairman of the Union Pacific Railroad, who used the occasion as a sounding board for an offensive against Henry A. Wallace and Robert R. Young, chairman of the board of the Chesapeake & Ohio Railway Co., who

(Concluded on Page 32, Column 2)

A full page of pictures taken at the spring meeting of the ASRE in Los Angeles by Austin Jones appears on page 17 of this issue.

N. Y. Department Store Sales at Highest Level

NEW YORK CITY — Department store sales in New York City during the week ended June 14 were 6% above the same period in 1946, the Federal Reserve Bank of New York reports.

Dollar volume was the highest for any week this year. For the four weeks ended June 12, the increase over 1946 was 9%.

Refrigeration compressors are as important as the fisherman in bringing you fresh fish and tempting fillets. After the fish is caught, it is quickly precooled by refrigeration.

Then it is stored in the ship's hold, at near-freezing temperature, and rushed to port. Here, in compressor cooled warehouses, processors prepare it for distribution. It is stored in temperature-controlled rooms for in-the-round delivery. Or it is quick-frozen, cut into fillets and packaged as a choice frozen delicacy. It is delivered under refrigeration to neighborhood markets... sold from compressor equipped display cases. You store it safely in your refrigerator.

Baker compressors help maintain the quality of fish from the moment it is caught until it is ready for use—in homes all over the world. Baker Ice Machine Co., Inc., factories at South Windham, Me., and Omaha, Neb.

Again Proved a 'Necessity'

Food Spoiling at $10,000 a Week Brings Call From Iceland for 'Refrigeration'

KEFLAVIK AIRPORT, Iceland—Good refrigeration is important for the preservation of foods, and this also calls for good refrigeration servicing and maintenance, the Army has found out once again—even in this near Arctic area.

Dramatic proof of these facts is seen in the emergency flight of refrigeration mechanics and equipment from Jersey City, N. J. to this airport in Iceland to save $250,000 worth of food which was spoiling because refrigeration machinery was not operating satisfactorily.

Despite outdoor temperatures of 55° to 60° F., food loss here was running about $10,000 a week, according to the American Overseas Airlines, which operates the airport for the United States. Formerly the Army itself had been in charge, but the Icelandic government had forced the withdrawal of uniformed personnel.

A hurry-up call from the Army to Electric Products, Inc., commercial refrigeration distributor in Jersey City, brought Dick Hughes, president, and Frank Gumbs, a mechanic, flying up to Keflavik to check the refrigeration installation.

During the war Electric Products had done considerable work for the government, which explains why they were promptly called in on the job.

American Overseas Airlines readied a special plane to fly the men up in a 14-hour non-stop flight on a recent Friday. Within a few hours the plane was sent back to La Guardia field to pick up the equipment which Hughes and Gumbs had decided was necessary.

It was something of a problem, too, reports Dick Hughes, to put through a long distance call from Iceland to his brother, Paul B., with the telephone strike in progress. Dick wanted the necessary equipment rushed over to La Guardia Field.

To provide temporary relief, four 2-hp. York air-cooled compressors and corresponding low temperature Bush water defrost blower units were flown up by the American Overseas Airlines plane on its return trip. The equipment was loaded at La Guardia on Sunday and arrived in Keflavik early Monday morning.

By Wednesday the system was operating on a satisfactory emergency basis, so Hughes and Gumbs returned.

At present another Electric Products man, Edward Johnstone, is making permanent repairs to the installation.

Gotham Hosiery To Install $500,000 of Conditioning as Tests Prove Its Worth

SYRACUSE, N. Y.—The signing of the largest single contract for complete air conditioning in the history of the textile industry, covering the three United States mills of Gotham Hosiery Co., Inc., has been announced jointly by Carrier Corp. and Gotham.

The installations will be largely completed this summer in the two Gotham mills in Philadelphia and one in Fort Wayne, Ind., at a cost of approximately $500,000, according to Roy E. Tilles, president of Gotham.

Five Carrier centrifugal machines, with a capacity of 1,150 tons of refrigeration, will be installed to completely air condition both the manufacturing and office spaces in the three plants.

BIGGEST IN HOSIERY FIELD

Carrier spokesmen declare that this was the biggest job undertaken so far in the hosiery field and one of the first to be ordered by a large northern hosiery manufacturer. Some textile operators have spent considerably more money in aggregate for air conditioning, but not in any one contract, they said.

Mr. Tilles pointed out that the installation of air conditioning would allow Gotham to produce the sheerest of "Gold Stripe" nylon stockings under the same controlled conditions that prevail in the Du Pont plants that produce their nylon yarn.

"Air conditioning will permit us to produce at a cost low enough to retail at $1.95 nylon stockings of a fineness exceeding even the prewar French made silk stockings which retailed at more than $5 a pair," Mr. Tilles said.

WHY IT'S VITAL TO PRODUCTION

The extremely fine stockings now being made on high-speed, fine gauge machines require production at tolerances so close that abnormal temperatures and humidity cause the yarn to gum and kink, he explained. Moreover, unless temperatures are kept at a predetermined level, the machinery overheats due to friction.

"For several years our research laboratories in Philadelphia have been studying hosiery manufacturing techniques under air conditioned operations," Mr. Tilles said. "These studies and tests proved that proper temperature and humidity control would permit the use of fine yarns, higher speed machinery and more precise manufacturing processes.

"By controlling temperature and humidity we get hosiery production that is virtually trouble-free and we produce a finer quality product. We believe that this pioneering step will set the pace in the hosiery industry and that in a few years all large mills will be air conditioned."

In Gotham's two Philadelphia plants conditions to be maintained are 85° and 50% relative humidity. In the big knitting building four central station systems will be established to handle 162,000 c.f.m.

TYPE SYSTEM INSTALLED

The system for each of the four areas will be a spray water type of washer, utilizing either chill water from the cooler or recirculated water from the tank of the washer itself to maintain a constant dewpoint within the washer at all times. This will be regulated from a dewpoint thermostat, which either allows chill water or recirculating water to enter the spray nozzle.

On each floor of the four story building there will be four zones of control consisting of a room thermostat and a room hygrostat.

In Gotham's finishing building in Philadelphia essentially the same set-up will be used, except that only three central station systems will be necessary. One of the central systems will be of sufficient capacity for both the first and second floor, with the other two handling the third and fourth floors. The total amount of air to be handled is 179,000 c.f.m. In both the Philadelphia plants the office area will be handled with a supply duct from the main system.

The Fort Wayne plant will require only two central station systems to handle a total of 82,000 c.f.m. Here, however, the office area is remote from the mill and a separate Carrier Weathermaker unit is being installed for the office space.

IMMEDIATE DELIVERY
6, 8, 10 & 12 Foot Lengths

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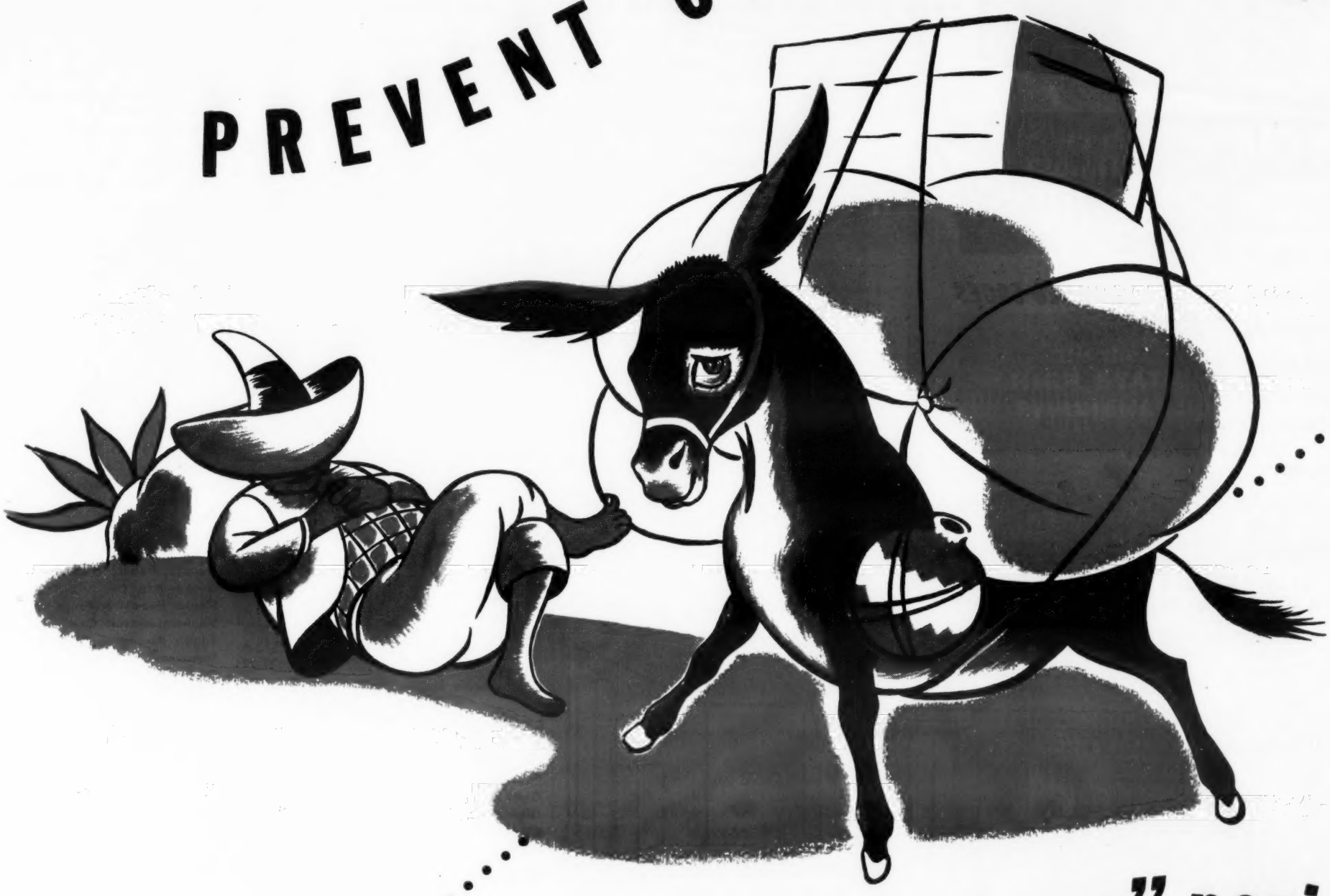
PREVENT OVERLOADING



. . . during "pull-down" period

with the Alco THERMO-LIMIT Valve

Now it's easy to protect motor and compressor against overloading. Operation of the Alco THERMO-LIMIT Valve is automatically limited to five predetermined suction pressure settings: 10, 15, 30, 45, or 55 pounds.

Quickly interchangeable cartridges do the trick. And the THERMO-LIMIT is liquid-charged, so you can install it in any location or position.

Available at your wholesaler's for smaller capacity commercial refrigeration. Ask for our Bulletin 152.

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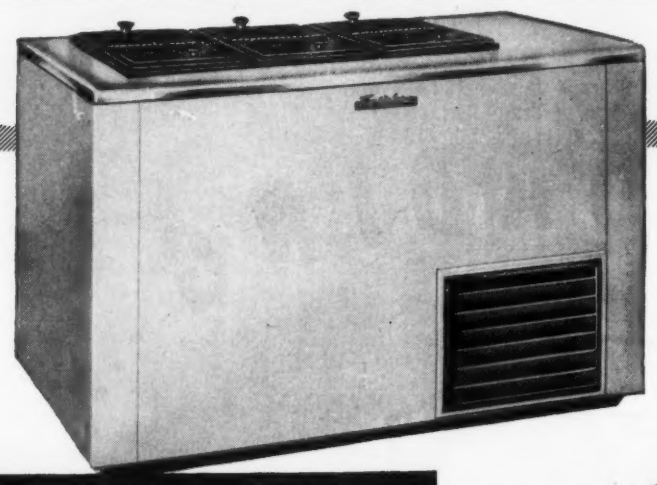
Designers and Manufacturers of Thermostatic Expansion Valves; Pressure Regulating Valves; Solenoid Valves; Float Valves; Float Switches.



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Summer Marts--

(Concluded from Page 1, Column 3)

attending until the second week, to the effect that the spaces were poorly manned and that they didn't get much attention from those who were on hand.

The second week of the coming July markets will provide a test of how this situation has been rectified.

Principal special events will be the breakfast meetings of the National Retail Furniture Association on Tuesday and Wednesday, July 8 and 9.

At the Furniture Mart

REFRIGERATORS

Admiral Corp. 526-27
Crosley Corp. 535-36-A
Frigidaire 508-509-A
General Electric Co. 538-39-A
Gibson Refrig. Corp. 537-38-B
Kelvinator 514-15-A
Leonard 514-15-A
Norge 521-22
Philco Corp. 128
Pressed Steel Car Co. .....533-34 & 42-B
Sanitary Refrigerator Co. 528
Westinghouse Electric Corp. 501

FREEZERS

Admiral Corp. 526-27
Ben Hur Mfg. Co. 528
Crosley Corp. 535-36-A
Frigidaire 508-509-A
General Electric Co. 538-39-A
Gibson Refrig. Corp. 537-38-B
Kelvinator 514-15-A
Leonard 514-15-A
Major Home Appliance Co. 536-B
Norge 521-22
Philco Corp. 128
Sanitary Refrigerator Co. 528
Schaefer, Inc. 17-K
Westinghouse Electric Corp. 501

DISHWASHERS

General Electric Co. 538-39-A
Kaiser Fleetwing, Inc. 17/W-124-125
Kamkap, Inc. 17/118
Westinghouse Electric Corp. 501

DISPOSALS

General Electric Co. 537-38-A
Westinghouse Electric Corp. 501

DRYERS

Bendix Home Appliances, Inc. 503
Blackstone Corp. 544-A
General Electric Co. 538-39-A
Hamilton Mfg. Co. 17/88-89
Nineteen Hundred Corp. 508-B
Westinghouse Electric Corp. 501

WASHING MACHINES

Altorfer Bros. Co. 541-42
Appliance Mfg. Co. 510-A
Automatic Washer Co. 513-A
Barlow Seelig Mfg. Co. 530
Barton Corp. 549-A
Bendix Home Appliances, Inc. 503
Blackstone Corp. 544-A
Conlon Corp. 504
Crosley Corp. 535-36-A
Dexter Co. 513-B
Easy Washing Machine Corp. 507
Frigidaire 508-09-A
General Electric Co. 538-39-A
Horton Mfg. Co. 511-A
F. L. Jacobs Co. 17/92-93
Morton Appliance Co. 631
Nineteen Hundred Corp. 508-B
Norge 521-22
Westinghouse Electric Corp. 501
Young Corp. 17/87

WATER HEATERS

Allen Mfg. Co. 510-B
Clark Water Heater Co. 511-B
Coleman Co. 525
Duo-Therm Div. 517
Eureka-Williams Corp. 514-B
Evans Products Co. .....540-B & 541-B
Frigidaire 508-09-A
General Electric Co. 538-39-A
Lonergan Mfg. Co. 513-A
Norge 521-22
Westinghouse Electric Corp. 501

RANGES (Electric)

Admiral Corp. 526-27
Crosley Corp. 535-36-A
Estate-Heatrola 523
Frigidaire 508-09-A
General Electric Co. 538-39-A
Gibson Refrig. Corp. 537-38-B
Kelvinator 514-15-A
Leonard 514-15-A
Norge 521-22
Pressed Steel Car Co. 533-34-B-428
Roberts & Mander Corp. 546-D
Westinghouse Electric Corp. 501

RANGES AND STOVES

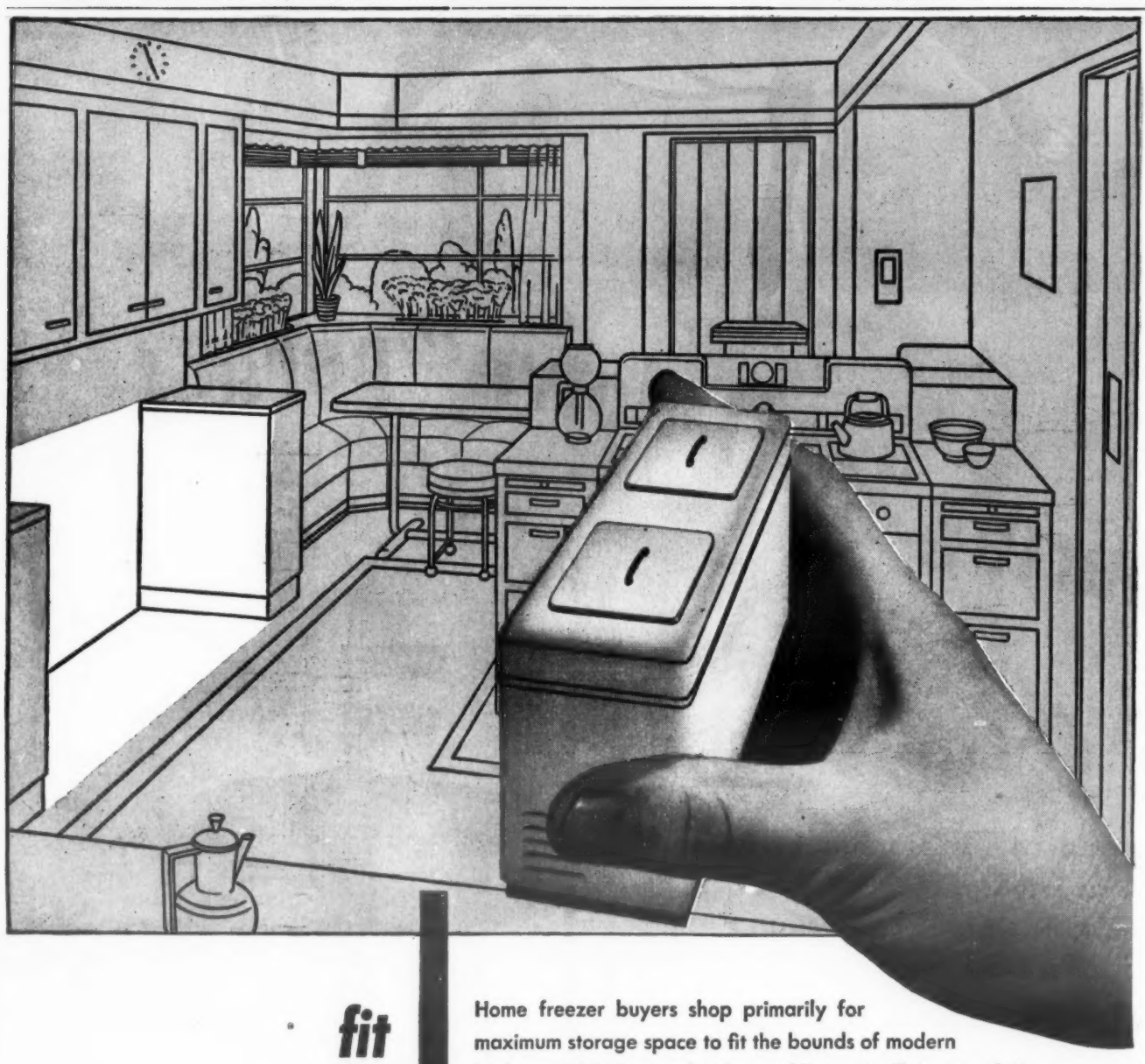
Agricola Furnace Co. 548
Allen Mfg. Co. 510-B
American Stove Co. 518
Armstrong Products Corp. 17/65
Athens Stove Works 624
Auto Stove Works 546-A
Caloric Stove Corp. 519
Coleman Co. 525
Comstock-Castle Stove Co. 546-B
Cribben & Sexton Co. 537-A
Crosley Corp. 535-36-A
Crown Stove Works 531
Detroit Vapor Stove Co. 521
Dixie Foundry Co. 524
Dortch Stove Co. 512-B
Eagle Foundry Co. 547-A
Estate-Heatrola 523
Grand Home Appliance Co. 17/J-31
Gray & Dudley Co. 515-B
Hardwick Stove Co. 1530
Knox Stove Works 513-B
Moore Corp. 504
Norge 521-22
Oakland Foundry Co. 546-C
Odin Stove Mfg. Co. 1438
Ohio Stove Co. 17/44-45
Premier Stove Co. 514-B
Roberts & Mander Corp. 546-D
Roper, Geo. D., Corp. 529
Siegler Enamel & Range Co. 1118
Tappan Stove Co. .....539-B & 40-B
Tennessee Stove Works 825
United Stove Co. 549-B
Welbilt Stove Co. 520

HEATERS AND CIRCULATORS

A. & J. Mfg. Co. 548
Allen Mfg. Co. 510-B
American Stove Co. 518
Armstrong Products Corp. 17/65
Cole Hot Blast Mfg. Co. 17/73-74
Coleman Co. 525
Coroaire Heater Corp. 17/M
Duo-Therm Div. 517
Eagle Foundry Co. 547-A
Estate-Heatrola 523
Evans Products Co. 541-B
Gray & Dudley Co. 514-B
Hardwick Stove Co. 1530
International Oil Burner Co. 512-A
Jacobs Mfg. Co. 17/35
Karbon Kleen Co. 17/72-A
Knox Stove Works 513-B
Locke Stove Co. 17/57
Lonergan Mfg. Co. 513-A
Monroe Stove Co. 17/40-41
Norge 521-22
Prentiss Wabers Prod. Co. 549-A
Quaker Mfg. Co. 516-B
Siegler Enamel & Range Co. 1118
Southern Aircraft Co. 17/77-78
Stiglitz Furnace & Fdry. Co. 17/60-62
Tennessee Stove Works 825
Titan Mfg. Co. 17/34
Wittie Mfg. & Sales Co. 17/52-53
United States Stove Co. 17/36
United Stove Co. 549-B
Welbilt Stove Co. 520

At the Merchandise Mart

Company	Space
American Central Division, Avco Mfg. Corp.	1476
Apex Rotarex Corp.	1472
The Coolerator Co.	11-107
Deepfreeze Division, Motor Products Corp.	1447
Easy Washing Machine Corp.	1237
Eureka Vacuum Cleaner Div., Eureka Williams Corp.	1475
Florence Stove Co.	1459
General Electric Co., Air Conditioning Div.	1127
Hotpoint Inc.	1457
International Appliance Corp.	1414
Knapp-Monarch Co.	1483
Landers, Frary & Clark	1479
McGraw Electric Co., Toastmaster Prod. Div.	1455
Proctor Electric Co.	1473
F. A. Smith Mfg. Co.	1422



fit your freezer to modern space budgets

Home freezer buyers shop primarily for maximum storage space to fit the bounds of modern kitchens. With Santocel, "the world's most efficient insulation material", you can actually offer the sales propelling plus of 40% to 60% more storage space within the same overall dimensions as the average kitchen-sized freezer!

Unprecedented insulating properties of Santocel—even better than those of "still air", the theoretical ideal—make it possible to cut thicknesses of freezer walls in half without lowering efficiency. Resulting space savings can be used to increase capacity or reduce outside dimensions. Best of all, you can get this head start on freezer sales and still stay within highly favorable competitive cost limits.

No matter what type of refrigerating equipment you may be interested in, this same efficiency and space-saving factor makes Santocel of prime interest to you. For complete technical information and counsel on any specific problems, address: MONSANTO CHEMICAL COMPANY, Merrimac Division, Boston 49, Mass.

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MONSANTO CHEMICALS — PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

STAINLESS STEEL ALL VISION DISPLAY CASE

AV-6—Triple glass front. Sliding glass doors, top and bottom in rear, mounted in hard rubber frames and sliding on hard rubber rails. Stainless steel interior, exterior and shelving. Comes equipped with coils and fluorescent lighting.

Really beautiful to see. Ideal Pastry Case, Dairy Case, Restaurant or All-Purpose Display Case. Plenty of display capacity. Easy accessibility and visibility through top and bottom glass sliding doors.

Length—Model AV-4	4 ft.	Width 34"	Height 52"
Model AV-5	5 ft.	34"	52"
Model AV-6	6 ft.	34"	52"
Model AV-7	7 ft.	34"	52"
Model AV-8	8 ft.	34"	52"

Our new models have 3 shelves and coils top and bottom.

• DELIVERY IN TWO WEEKS •

Inquire about our complete line of Commercial Refrigeration equipment including Storage Boxes, Reach-Ins, Ice Cream Cabinets, Freezers, Dough Retarders, Florist Boxes, Bobtail Fountains and Creamer Units, etc.

FRIGITEMP CORPORATION
931 BERGEN STREET, BROOKLYN 16, N. Y. MAin 2-9093

NEW NO. 47 CATALOG
NOW OFF THE PRESS
WRITE FOR COPY ON YOUR LETTERHEAD TODAY

REFRIGERATION
AIR CONDITIONING
HEATING

PARTS
AND
SUPPLIES

THE SUPPLY HOUSE THAT SERVICE BUILT

SERVICE PARTS COMPANY
2511 LAKE STREET, MELROSE PARK, ILL.

why RAYTHEON REFRIGERATOR FAN MOTORS

Stay Young So Many Years Longer!

It's the **BALANCED MECHANICAL DESIGN!**

It's the **HIGH STATIC EFFICIENCY!**

It's the **LOW NOISE LEVEL!**

It's the **LIGHTWEIGHT ALUMINUM BLADE!**

It's the **OVERSIZED OIL RESERVOIR!**

5 BIG WAYS BETTER!

RUSSELL

ELECTRIC COMPANY

340 West Huron Street
Chicago, Ill.

On every score that counts in terms of long, trouble-free life and smooth, quiet efficiency under every conceivable condition—Raytheon Refrigerator Fan Motors have exactly "what it takes".

These precision-engineered refrigerator fans for compressor units are now available in two different types. One is equipped with a 6-blade fan, 7¾ inches in diameter—and the other is equipped with a 3-blade fan, 8¾ inches in diameter. Check with us now for complete information.

Former Sears Official Is New Noma Executive

NEW YORK CITY — Election of Dr. Boris Emmet as executive vice president of Noma Electric Corp. has been announced by Henri Sadacca, president.

Dr. Emmet formerly was retail merchandising manager for Sears, Roebuck & Co.

Announcement also was made of the election of John Seubert, formerly manager of Noma's Estate Heatrola Division, as a vice president.

At the annual meeting all directors were re-elected. They are John Bess. Dr. Emmet, David F. Kahn, Norbert A. McKenna, Charles L. Pearce, Benjamin F. Pepper, Herbert M. Prior, Mr. Sadacca, and Joseph H. Ward.

Theater Cooling Approved

NEW ORLEANS—Application for the installation of three air conditioning units in a theater owned by Joy Theaters, Inc., here at a cost of $19,000 has been approved by the Office of the Housing Expediter.

Refrigeration Advances New Breeding Practices

SHREWSBURY, Mass.—Refrigeration played an important role in experiments here during which normal rabbits were produced from ova taken from the mother, fertilized, and transplanted into a foster-mother.

Experimenting at Worcester Foundation for Experimental Biology, Dr. Min-shueh Chang removed egg cells from rabbits and stored them at temperatures ranging from 32 to 59° F. for periods of from 24 to 168 hours. To find out whether normal cell-division or cleavage would occur, the cells were then warmed up to about normal body temperature and held there for 24 hours before being transplanted.

Writing in the British magazine *Nature,* Dr. Chang said this technique can become particularly important to the livestock industry. Practical production of more and better livestock can be effected, he noted, by transplanting before birth ova of superior mothers into mothers of ordinary breeding.

James To Manage Plant For Liquid at Morrison

CHICAGO—Byron E. James has been appointed general manager of Liquid Carbonic Corp.'s new ice cream cabinet and refrigerator manufacturing plant at Morrison, Ill., it has been announced by Wayne D. Jordan, vice president in charge of the fountain-cabinet division of the company.

Byron E. James

Mr. James will be in full charge of both engineering and production, the announcement stated. He joined Liquid Carbonic in April as chief engineer in charge of design and development of ice cream cabinets and the Frostair household refrigerator.

Prior to joining Liquid Carbonic, he had been chief unit development engineer for York Corp.

'Trade-Ins Nullify Effect Of Fair Trade Price' - FTC

WASHINGTON, D. C. — Dealer price competition through varying the trade-in allowance makes enforcement of Fair Trade prices almost impossible in the household appliance and radio field, Congress has been told by the Federal Trade Commission.

FTC has begun a broad survey of prices being maintained under fair trade agreements, but the purpose behind this investigation remains in doubt.

Official FTC explanation is that the survey will determine levels of consumer goods prices in various industries, but other sources believe that the data obtained may be used for anti-trust proceedings.

Airco Co. Formed In L. A.

LOS ANGELES—Airco Refrigeration Co. is the firm name under which Joseph Holman has published a certificate that he is conducting business at 1049 El Paso Drive here.

Centralized Service by Distributor Proving Itself, Says Bendix

SOUTH BEND, Ind.—Inaugurated at the close of the war, centralized service on products manufactured by Bendix Home Appliances, Inc., is working out successfully, according to A. P. Smith, the company's national service manager.

Bendix is the only washing machine manufacturer fostering centralized service nationally through its distributors, Mr. Smith said.

Some 50% of the company's market potential, covering most of the metropolitan areas, have service under the centralized plan. Dealers located outside a radius of approximately 25 miles from the distributor's headquarters ordinarily have their own service departments.

For the dealers in the metropolitan area and environs, the distributor's centralized service handles all installations of Bendix automatic washers and dryers, and all service calls. The dealer is charged a flat rate on each machine for the installation, the one-year warranty and the post-sale demonstration by a trained woman known as a field specialist.

Advantages to the small metropolitan dealer are several, it is claimed. First, he is relieved entirely of the service function and therefore can concentrate on sales. Second, he need not have a serviceman or home demonstrator on the payroll. Third, he is not required to invest in and maintain a parts inventory.

Ten district service supervisors from the factory are located strategically for contacting each centralized service area. They conduct service training schools for distributors' service personnel, make a constant check on the products and check distributors' parts inventories for proper quantities.

They offer suggestions to the personnel and heads of the centralized service centers and act as a liaison between the national service office and the distributorships.

As an example of the activity, in the New York City distributorship more than 160 Bendix automatic washers are being installed daily by centralized service. In addition, service calls are made.

One hundred men—a ratio of one to each three dealers—are employed by this distributor in centralized service. Mr. Smith observed that the ratio is evidence of economy to the dealers who come under the central plan.

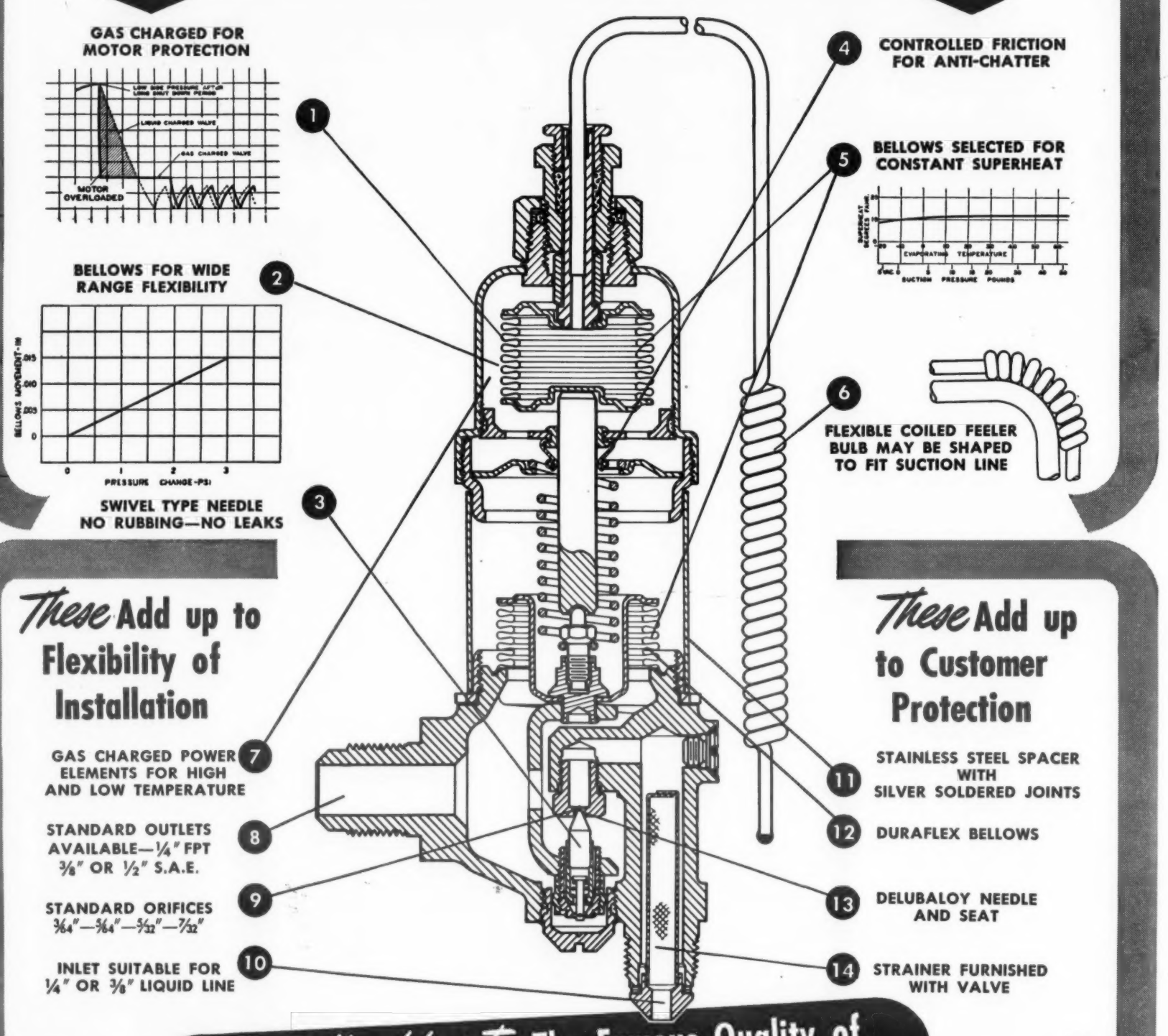
Automatic Distributing Corp. Moves Into New Quarters

HOUSTON, Tex.—Automatic Distributing Corp. here has moved into its new quarters at 100 Jackson St. Included in the new building will be general offices, shipping and receiving departments, radio parts section, phonograph record selling station, appliance repair facilities, and warehouse space.

New quarters allow for expansion of the company's activities and will allow for unloading direct from railroad car to warehouse, the management indicates.

Let's Analyze Quality—

These add up to Perfect Refrigerant Control


GAS CHARGED FOR MOTOR PROTECTION
MOTOR OVERLOADED
1
BELLOWS FOR WIDE RANGE FLEXIBILITY
BELLOWS MOVEMENT-IN
PRESSURE CHANGE-PSI
2
SWIVEL TYPE NEEDLE NO RUBBING—NO LEAKS
3
4 CONTROLLED FRICTION FOR ANTI-CHATTER
5 BELLOWS SELECTED FOR CONSTANT SUPERHEAT
EVAPORATING TEMPERATURE
SUCTION PRESSURE POUNDS
6 FLEXIBLE COILED FEELER BULB MAY BE SHAPED TO FIT SUCTION LINE
These Add up to Flexibility of Installation
7 GAS CHARGED POWER ELEMENTS FOR HIGH AND LOW TEMPERATURE
8 STANDARD OUTLETS AVAILABLE—¼" FPT ⅜" OR ½" S.A.E.
9 STANDARD ORIFICES 3/64"—5/64"—5/32"—7/32"
10 INLET SUITABLE FOR ¼" OR ⅜" LIQUID LINE
These Add up to Customer Protection
11 STAINLESS STEEL SPACER WITH SILVER SOLDERED JOINTS
12 DURAFLEX BELLOWS
13 DELUBALOY NEEDLE AND SEAT
14 STRAINER FURNISHED WITH VALVE
2690

They all add up to The Famous Quality of "Detroit" No. 673 Valve—"The Standard Of The Industry"

DETROIT LUBRICATOR COMPANY

"DETROIT"

General Offices: 5900 TRUMBULL AVENUE, DETROIT 8, MICHIGAN

Division of American Radiator & Standard Sanitary Corporation

Canadian Representatives — RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Safety Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

U. S. PAT. 2, 219, 393 CANADA PAT. 394, 209 NEW ZEALAND PATENT 82, 359

COMMERCIAL DOMESTIC

EVAPORATORS

Originators and Developers of

WATER DEFROST

Humid Air Evaporators

Leading the field in the development of refrigeration, evaporators for use on high and low temperature applications, "RECOLD" products have a dependable record of performance.

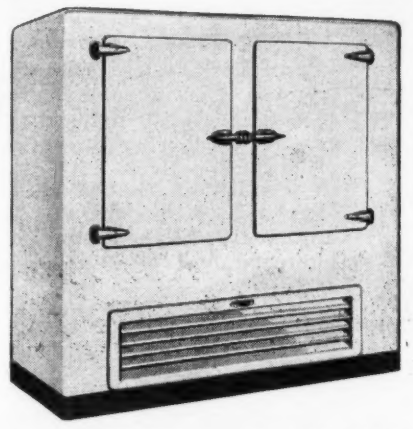
"If it's a 'Recold'—it's right."

REFRIGERATION ENGINEERING, INC.

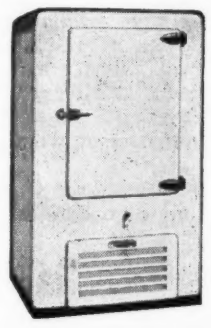
7250 East Slauson Ave.
Los Angeles 22, Calif.

HARDER *Freez*

HOME AND FARM FREEZERS

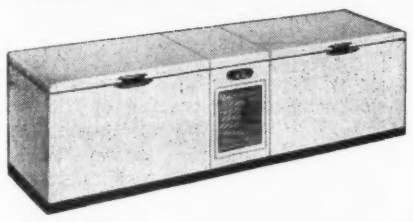


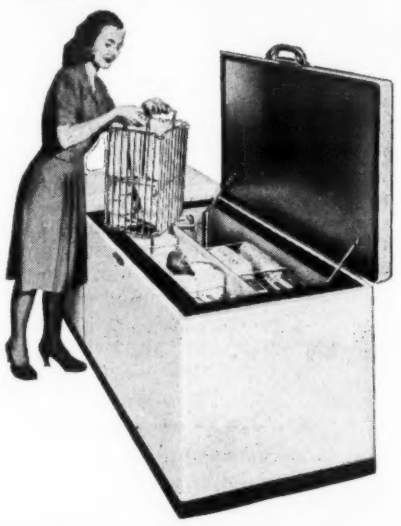
Large UPRIGHT Model—18 Cubic Foot Capacity.



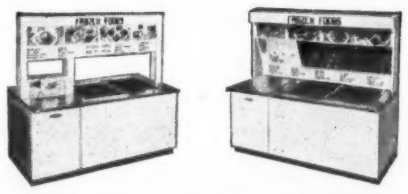
Small UPRIGHT Model—9 Cubic Foot Capacity.

Double CHEST Model—24 Cubic Foot Capacity.



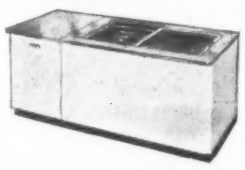


Single CHEST Model—12 Cubic Foot Capacity.

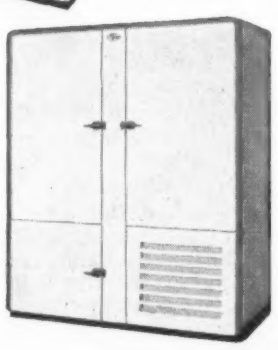


UTILITY FREEZERS

by Harder-Freez in Wall, Center Aisle, and Chest Types—for commercial use in sale of frozen foods, ice cream, etc. Holds over 400 average size frozen food packages.



HARDER REACH-IN Refrigerator—a self-contained unit with 35 cubic foot capacity—for large homes and commercial use.



ADDITIONAL DEALERSHIPS

Available on the Harder Line!

..SEE YOUR TYLER AGENT

HARDER *Freez*
HOME FREEZER — CHEST MODEL

NATIONAL PROMOTION— BIG, WIDE-OPEN MARKET— EXPERIENCED MANUFACTURER!

The sensational demand for HARDER-Freez Home and Farm Freezers has resulted in the decision to add a restricted number of new dealers (sub-agencies).

It will pay you to get in touch with Tyler or the Tyler Agent immediately—for the Harder line has what it takes to develop a lasting and profitable relationship. Based on years of experience in the home freezer field on the part of the Harder Refrigerator Company, and in food refrigeration on the part of Tyler, this up-to-the-minute line meets vital sales requirements:

1. *Meets a universal need* for better, longer, easier, more economical preservation of food.
2. *Appeals to a big market*—for homes, farms, restaurants, hotels, institutions, resort hotels, etc.
3. *Built to finest refrigeration standards*, with sturdy welded-steel construction, 4 full inches of Tyler Certified Insulation, Hermetically Sealed Condensing Unit, Sealed Bottom, etc.
4. *Low cost operation*, with additional savings on food purchases and prevention of waste.
5. *Simple, appealing design* with attractive, baked-on enamel finish, chrome-plated hardware.
6. *Compelling sales points and features*, such as Self-balancing Lid, handy Freez-Basket, adjustable dividers, Chrome Instrument Panel with thermometer, red warning signal and temperature control, Pressure Latch, Aluminum Cold Reflector, etc.
7. *National advertising* in such magazines as Better Homes and Gardens, Field and Stream, Outdoor Life, Country Gentleman, Farm Journal, Progressive Farmer, What's New In Home Economics, Saturday Evening Post, Resorting, American Restaurant, and others.
8. Backed by an *effective Dealer Help program.*
9. *Reasonably priced*, in line with competition.

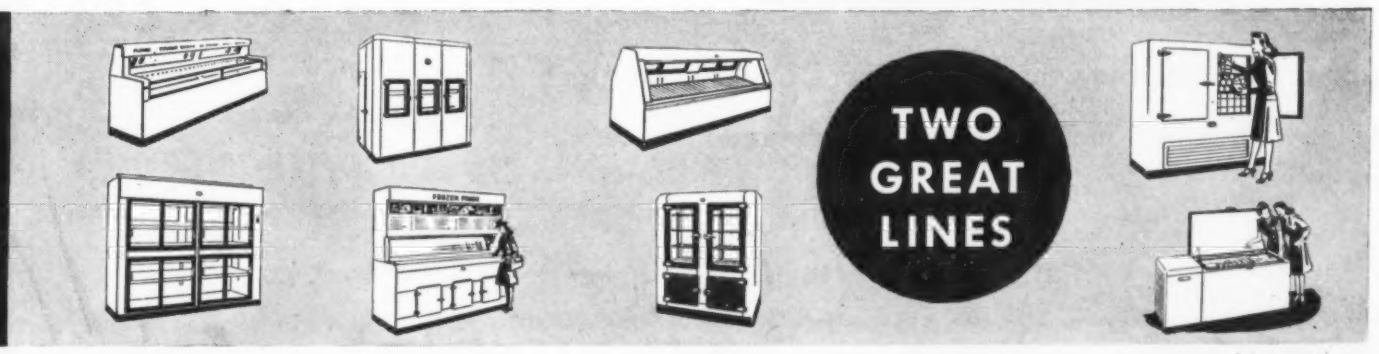
Get the full story on the Harder line. Don't delay your action. The opportunity of obtaining a Harder dealership in your territory may not occur again for many years.

WRITE, WIRE OR PHONE TODAY!

TYLER FIXTURE CORP., NILES, MICHIGAN

Consumer Advertising—this effective, half-page, two-color advertisement appeared in a recent issue of The Saturday Evening Post—part of a campaign reaching nearly 100,000,000 prospects in 1947.

IT'S **TYLER**
FOR FOOD REFRIGERATION



Speed-Freeze

AN OUTSTANDING BEVERAGE COOLER . . .

8 FOOT BLOWER TYPE SELF-CONTAINED ILLUSTRATED.

Good news for those who want the best in beverage coolers—the new, Ideal "Speed-Freeze" plug-in type cooler with a 28½ case capacity.

Manufactured to the highest quality standards by specialists in the beverage cooler field for over a decade. Designed and engineered to insure maximum operating efficiency, the "Speed-Freeze" cooler insures years of outstanding service.

The "Speed-Freeze" line is RIGHT in quality, RIGHT in price. For more information, write us today!

Proven by Performance

IDEAL Speed-Freeze PRODUCTS

IDEAL COOLER CORP. 2953 EASTON AVE. ST. LOUIS 6, MO.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

inadequate, the salesclerk took a look and said, 'Yeah, I think you're right.' "

Facts and Conclusions

Here is how the researchers summarize their findings:

Fact: 14 salespeople actually sent the customers out disgusted. They would not return. *Conclusion:* This means that 14 customers were sent to a competitor.

Fact: 14 salespeople gave sales talks that were completely uninteresting. *Conclusion:* 14 salesclerks showed that they needed improvement in their sales technique.

Fact: 11 salespeople failed to show any enthusiasm about the product they were selling. *Conclusion:* 11 salespeople proved they were not happy in their jobs.

Fact: 11 salespeople did not make any effort to meet customer's objections. *Conclusion:* 11 salesclerks were not "salesmen."

Fact: 10 salespeople were not interested enough to ask for customer's name or invite him back. *Conclusion:* 10 prospects lost.

Fact: 3 salespeople were downright discourteous and rude. *Conclusion:* 3 Quislings for your competitor.

Fact: 8 stores had window displays which discouraged the customer from entering the store. *Conclusion:* 8 negative advertisers.

Fact: 29 stores showed evidence of good housekeeping. *Conclusion:* housewives like this.

Fact: 30 stores were well lighted. *Conclusion:* This is a fundamental essential of good merchandising.

Fact: 11 stores gave a decidedly poor "first impression." *Conclusion:* Poor first impression creates "difficult prospects."

Fact: 7 stores were considered to be dirty. *Conclusion:* 7 stores are letting conditions exist that drive away customers.

Fact: 30 stores were in a good state of repair. *Conclusion:* This is praiseworthy under today's conditions.

Fact: 21 stores lacked informative advertisements on the premises. *Conclusion:* 21 stores don't educate the public about their products.

Fact: 15 stores *only* presented appliances that were in operation for a live demonstration. *Conclusion:* 18 stores were inadequately equipped to meet the customer's problems.

Fact: 8 stores *only* used manufacturer's promotion aids. *Conclusion:* The rest missed the help that the manufacturer is so anxious to give.

Getting Down to Brass Tacks

Summaries of the sleuths' reports on their own reactions to the dealerships they visited provide interesting, detailed answers to the following general questions about the average electrical appliance store and how it is operating today and here they are:

I. HOW GOOD ARE THE STORE FRONT, WINDOW DISPLAYS, AND INTERIOR DISPLAYS?

Store Front

47 had an "inviting" facade
19 store fronts were not "inviting"
57 had clean fronts
9 store fronts were dirty

Window Displays

56 window displays were clean
10 window displays were dirty
56 windows were well-lighted
10 were poorly lighted
48 windows invited the customer to come in to shop
18 windows did not make the customer feel welcome

Interior Displays

42 "first impressions" were good;
7 were excellent
17 first impressions dissatisfied the customer
48 store interiors were neat
18 store interiors were untidy
55 stores had clean merchandise
11 stores had dirty merchandise displays

Conclusion: Store Housekeeping is Just Fair

Thirteen per cent of the store exteriors were dirty: 15% of the windows were dirty; 27% of the store interiors were untidy; 20% of the store interiors were dirty; 17% of the stores had dirty merchandise on display.

Conclusion: Store Displays Are Poor

Forty-four per cent of the window displays were not eye-catching; 27% of the window displays did not invite the customer into the store, even after examination; 36% of the interior displays were ineffective; 67% of the stores had inadequate advertisements; 33% of the stores did not have models rigged for a live demonstration.

II. IS THE SALESMAN A "GOOD FELLOW"?

57 salesclerks approached the customer promptly, in two cases the store was too busy for a prompt approach
9 salespeople failed to approach the customer promptly
62 salespeople gave the customer a courteous greeting
4 salespeople were discourteous in the greeting
61 salespeople were courteous
5 salespeople were thought not courteous

Conclusion: The Average Salesman Is a "Good Fellow"

Eighty-six per cent of the salespeople had all the attributes of courtesy, friendliness, prompt approach, and courteous greeting. Therefore, we may conclude that the great majority of electrical appliance salesmen are "good fellows."

III. IS THE SALESPERSON A GOOD SALESMAN?

41 salespeople were enthusiastic about the product they were selling
25 were disinterested
36 salesmen had interesting sales talks; 31 had convincing sales talks
35 people had neither an interesting nor a convincing sales talk
41 salespeople made an effort to pave the way for a return visit by the customer to the store
25 salespeople sent the customer to a competitor

Conclusion: The Average Salesperson Is Not a Good Salesman

Too many salesmen lack the attributes of good, old-fashioned salesmanship. Thirty-eight per cent of the salespeople lacked the basic tool of good salesmanship: a good sales talk; 47% of the salespeople tied their own hands by failing to learn anything about the customer's buying interests; 38% sent the customer to competitors.

IV. IS THE SALESPERSON A GOOD ELECTRICAL APPLIANCE SALESMAN?

Out of 44 stores where the product was not available for immediate delivery:

25 salespeople remained patient and interested in the customer's shopping mission
16 lost interest when the person asked for a product that was unavailable for immediate delivery
15 salespeople told the customer when the product would be available
26 salespeople gave the customer no definite information
19 salespeople tried to get the customer's name for the "waiting list"
22 made no effort to get the customer's name

Out of 66 stores:

32 salespeople gave a convincing demonstration of the product
34 gave little or no demonstration
16 salespeople used manufacturer's selling aids
50 salespeople did not or could not use such aids
42 salespeople convinced the customer that they knew their merchandise
24 gave conclusive evidence that they did not know the merchandise they were selling
34 salesmen were good enough to make the customer want to return to him personally, if the customer were shopping for himself
32 made the customer want to shop elsewhere

Conclusion: The Average Salesperson is not a Good Electrical Appliance Salesman

Apparently only about 50% of the salespeople now selling electrical appliances have all the attributes that the modern customer demands when he is shopping for an article which requires a fairly large outlay from his household budget.

Does the Shoe Fit?

Here are some excerpts of actual conversations between "shoppers" and alleged "salesmen" recorded during this survey:

"When I objected by pointing out that the glass topped crisper might get broken by putting things on top of it since it was not very well protected, the salesman said: 'Yeah, it might, I guess.' "

"When I objected to the glass shelves in one model, the salesman pointed out that no one had yet complained of broken shelves."

"I objected to the fact that the washer must be permanently installed in one spot. The salesman made no effort to offset the objection but said: 'Yeah, you have to have some spot where it can be installed.' "

"When I questioned the salesman about the difficulty of cleaning bare floors without the attachments of the upright cleaner, the salesclerk merely said he didn't know if attachments were available. He did not know which vacuum was advisable for my particular needs."

"It's almost automatic...*and fool-proof!*"

More than any other condensing unit of open type design, the Mills Direct Drive is automatic in performance and fool-proof in operation. In those qualities it ranks with hermetics, while at the same time retaining the accessibility and swift repair characteristics of belted models.

Smaller in size, lighter in weight, and more efficient in comparable ratings, the Mills Direct Drive is the logical choice where space and accessibility are determining factors.

MILLS Direct Drive COMPRESSOR

First post-war addition to a distinguished family of air- and water-cooled condensing units

MILLS INDUSTRIES, INCORPORATED · 4100 FULLERTON AVENUE · CHICAGO 39, ILLINOIS

PURO ELECTRIC WATER COOLERS

BRANCHES IN PRINCIPAL CITIES

MAIN OFFICE
440 LAFAYETTE ST.
New York 3, N. Y.

PURO FILTER CORP. OF AMERICA

DRINKING WATER SPECIALISTS FOR 40 YEARS.

WHAT WILL YOUR FUTURE SALES BE

IF YOU HAVE TO DEPEND UPON CASH CUSTOMERS? HOW

MANY SALES WILL YOU LOSE IF YOU CAN'T OFFER THE

TIME-PAYMENT BUYERS A FINANCING PLAN THAT WILL

OUT MATCH ANY COMPETITIVE PROPOSITION? IF THESE

QUESTIONS STRIKE YOU SERIOUSLY . . . AS THEY SHOULD . . .

MAKE IT YOUR IMMEDIATE CONCERN TO FIND OUT ALL

ABOUT COMMERCIAL CREDIT FINANCING PLANS FOR THE

REFRIGERATION INDUSTRY. POINT-BY-POINT COMPARISON

WILL PROVE NO OTHER PLAN GIVES YOU SUCH ADVANTAGES.

COMMERCIAL CREDIT CORPORATION

MORE THAN 300 OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

Arkansas Commercial Group Elects Jennings President

LITTLE ROCK, Ark. — Zack O. Jennings was re-elected president of the Arkansas Commercial Refrigerator Association, Inc. at that group's second annual meeting held here recently.

Mr. Jennings is also a director of the National Commercial Refrigerator Sales Association, with which the Arkansas group recently became affiliated.

At the same meeting Paul Allen was elected vice president. Raymond Kordsmeier was re-elected secretary and given the additional post of treasurer.

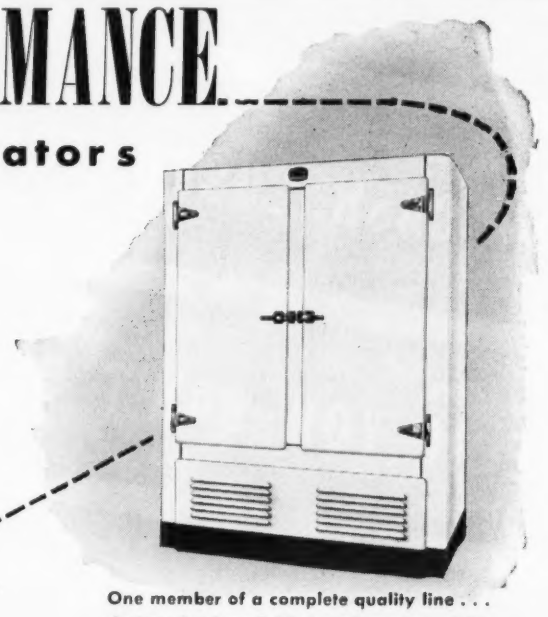
Herman Cumnock, Pat J. Kerby, and Mr. Allen were re-elected to the board of directors. Newly elected board members are Bill Nolan and Jake Sadler.

All of these men, except Mr. Sadler, are from Little Rock. Mr. Sadler is from Pine Bluff.

ASSURED PERFORMANCE

in Reach-in Refrigerators

Recognized as quality products SHERER Reach-in Refrigerators will continue to be built to the same high standards that have earned them their present outstanding position in the industry.



One member of a complete quality line . . . designed to be salable in volume at a profit.

SHERER

COMMERCIAL REFRIGERATORS

SHERER-GILLETT CO., Marshall, Michigan

VEGETAIRES • DAIRY CASES • REACH-IN REFRIGERATORS • WALK-IN COOLING ROOMS • MEAT & DELICATESSEN DISPLAY CASES •

Controls

two separate load circuits

• *Versatility.* That describes this new PENN 270 Series Control. The diagram above for instance, shows how this 2-pole switch can be employed to control simultaneously the operation of two single phase AC or DC motors.

But the efficiency and dependability of the PENN 270 does not stop there! You can use it to control polyphase motors of 3 h.p. and under (where protection against single phasing is provided) without line starters. It is a better and more economical way to control multiple refrigeration systems. And when wired in single phase circuits as a 2-pole switch, it always breaks the "hot" line.

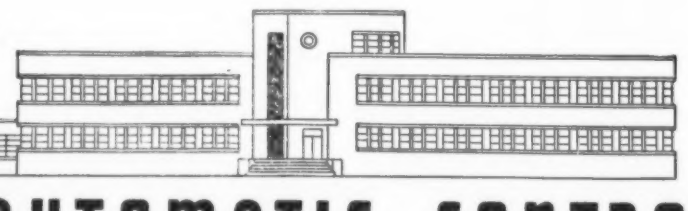
Look at the advantages you get when you rely on the PENN 270 Series Control:

1. More efficient operation.
2. Greater dependability.
3. Freedom from contact troubles.
4. Better electrical performance.
5. Greater accuracy regardless of mounting position or vibration conditions.
6. Ease of installation.
7. Simple, easy adjustments.

Get full details today. Write *Penn Electric Switch Co., Goshen, Ind.* Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ont.

Series 270 and 272 PENN "Single" Temperature or low side pressure controls. Also (not shown) Series 271 and 273 PENN "Dual" Controls which combine in one unit a temperature or low side pressure actuated mechanism and built-in high pressure safety cut-out.

PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Frozen Pastries Offer Wide-Open Field To Alert, Trade-Conscious Bakeries

As Competition Intensifies Among Bakers, They'll Need Freezing, Storage Equipment, Nebraska Bakers Assn Told

OMAHA, Neb.—Most of the bakeries in this country, especially the retail operators, will be in the market for sharp-freeze and refrigerated storage equipment within the next five years, in the opinion of N. X. Swanson, proprietor of Swanson's Pastry Shop, Ottumwa, Iowa, who appeared as a speaker at the 34th annual convention of the Nebraska Master Bakers Association held here. He stated that this refrigeration equipment would be specially designed to handle frozen baked goods.

Another speaker, R. Mower of Swift & Co., who talked on "New Developments in Plain and Rolled-in Dough and Coffee-Cake," also urged expanded production and promotion of Danish pastries made with retarded doughs, which involves usage of commercial-type refrigerators.

Baking Picture Brighter

Mr. Swanson, who recently had a combination sharp-freeze and storage unit built by a manufacturer to his own specifications and has embraced wholeheartedly the frozen bakery goods business, stated that it is one of the newest developments to brighten the retail baking picture, and is something the baker will not be able to get along without. Bakers are going to have to look for new business one of these days, he declared, and frozen goods are the answer.

Housewives are going to want to pull their pies out of the oven and eat them hot, the speaker continued, and bakery pies will lose out if the frozen technique is not adopted. The baker has the initial advantage in that he can use better materials than can the housewife, such as special flour and shortening. Frozen fruits, also can be purchased more cheaply by the baker. The only advantage the housewife has is the ability to serve pies right out of the oven, Mr. Swanson added, and that is where frozen pies clinch the sale for the baker.

Freezing Improves Flavor

The baker doesn't need to change his formula for frozen foods production, according to Mr. Swanson. Freezing also will have a tendency to shorten the crust and give better flavor to the fruit. Freezing must be fast to avoid soggy crust, however, he cautioned, which entails use of the right kind of refrigeration equipment.

The frozen product also must be packaged so that the housewife can carry the pie home without its thawing. He has found that sealing the pie in cellophane and then putting it in a heavy paper carton will keep it frozen in good shape.

He advises his customers to put the frozen pie in a 450° oven for 20 minutes, then reduce to half that temperature and bake another 20 minutes.

Baking powder biscuits are another "natural" for freezing, the speaker pointed out. He is having good success selling six biscuits in a package for 15 cents. The housewife is instructed to warm them to room temperature before baking, and they can be kept in a regular kitchen refrigerator four or five days before baking.

Cakes, Cookies Frozen, Too

Cakes constitute a feasible frozen product, said Mr. Swanson. All types of cakes may be frozen and may be sold in cardboard boxes lined with cellophane. Cookies have sales appeal as a frozen product, and the Iowa baker is selling them in packages of two dozen.

Rolls and bread have to be put in a box and then frozen, and they give the housewife more work than other frozen goods, the speaker stated, but they offer a good potential market. They must be thawed one and one-half to two hours before baking, or set in the home refrigerator for two or three days, then left at room temperature for 20 to 30 minutes.

In his own shop, Mr. Swanson freezes all whipped cream goods and specializes in a strawberry whipped cream pie. He also sells frozen cream-puffs and a whipped cream chiffon pie, while another specialty is a macaroon coconut pie filled with pineapple and topped with whipped cream.

Mr. Swanson's freezer equipment makes it possible to use ice cream in his products, and he believes that this combination offers tremendous possibilities for the baker. Baked goods containing ice cream can be hooked up with the national advertising by ice cream manufacturers with profit to the baker, he asserted.

Ice Cream Blended In

One specialty is an ice cream cake in which a generous portion of ice cream is placed between thinly-scaled sheet cakes. Ice cream eclairs and ice cream puffs sell themselves, with the last named selling best because it contains more ice cream, he asserted. He cautioned against trying to use sweet chocolate with eclairs and puffs, however, and advised using chocolate syrup.

Possibilities of frozen goods in the baking industry are unlimited and may well prove to be one of the most important developments in the industry's history, Mr. Swanson feels. For example, he believes meat and chicken pies offer a vast market. Frozen salads likewise could be developed into a multi-million dollar business. Fruit salad with whipped cream and mayonnaise combined in the frozen product would appeal to millions of housewives, who can't buy such a product now anywhere, the baker declared.

The made-to-order box of Mr.

(Concluded on next page)

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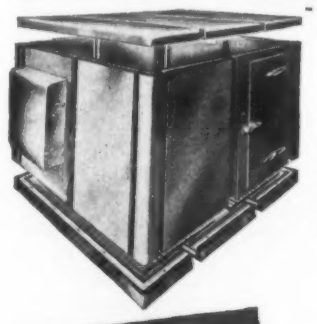

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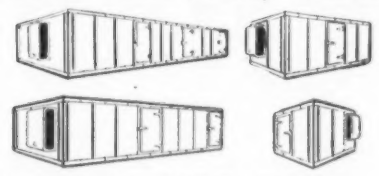

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Shops Must Supplement Regular Baked Goods With Frozen Line To Meet Competition

(Concluded from preceding page)

Swanson's is 18 ft. long, 7½ ft. high, and 3½ ft. wide. It has 12 doors and they are cut in half so that he can open only half a door and avoid excessive spilling of cold air.

Seven feet of the refrigerator has been designed for sharp-freezing and the plates in this section are very close together so that they maintain a constant temperature of -5° F. The other compartment which takes up the remaining space has the plates spaced further apart and is used for storage of frozen goods. A temperature of -10° F. is held.

One Unit 'Protects' Other

The box has two refrigerating units. A 2-hp. unit provides refrigeration for the sharp-freeze compartment, while a 1-hp. unit handles the storage section. Reason for the two units, Mr. Swanson said, is to provide protection. If one compressor should break down, the other will hold a temperature of -10° F. in both compartments until repairs can be made. Considerable money is tied up in the frozen goods, he explained, and the spoilage would be a major loss.

Because some frozen goods start defrosting at 8° F., Mr. Swanson takes no chances and holds storage temperature at -10° F. His box handles 450 eight-inch pies per hour, and he believes it is big enough to handle the frozen food needs of the average-size bakery. Operating cost is only $20 a month.

Packaging Keeps Items Moist

Packaging is highly important in the frozen bakery goods business, the speaker emphasized, and the package should be moisture-proof, since the air in the freezer is very dry and the product will dry out very rapidly if not properly packaged. The cellophane-cardboard-box combination is highly satisfactory, he has found, and guarantees no failures because it has to warm up to about room temperature before it will pour out of the package. He uses a cardboard pie plate with metal rim, so that he doesn't have to bother with returns.

Mr. Swanson has frozen wedding cakes, but doesn't make a practice of it. He uses homogenized cream in all frozen goods requiring that ingredient, so that there will be no separation when frozen.

Up until mid-May, the Ottumwa baker had sold all his frozen goods without advertising or special promotion. Even under those conditions, however, approximately 10% of his total sales have been in frozen goods. Comparative prices, on pies for example, have been 45 cents for the baker apple pie and 55 cents for the frozen item.

With his equipment and routine well established in May, Mr. Swanson introduced his full line of frozen goods at an Ottumwa food show, and said he would promote this phase of his business from now on.

He has ordered self-service, reach-in display cases to facilitate display and selling of the frozen products, while products which require the most refrigeration will be vended on the retail shop floor from freezer cabinet of the type used for ice cream.

Mr. Swanson doesn't think the frozen market will ever replace the baked market, but he declared that the average bake shop is going to have to have both baked and frozen in the not far distant future to make out against competition.

Bakers located in communities which have large food chain stores will be among the first who will have to adopt frozen lines, he asserted. The selling of various mixes by food stores today, such as biscuit, cake, and pie dough mixes, and dessert mixes, has grown to large proportions, he added, and the baker can capture this business through merchandising of frozen goods.

McCray Promotes Greiling To Post of Chief Engineer

KENDALLVILLE, Ind. — Promotion of David J. Greiling from design engineer to chief engineer was announced recently by McCray Refrigerator Co. here.

Prior to joining McCray in 1941, Mr. Greiling had held such positions as chief engineer in charge of the soda fountain division of Bishop & Babcock Co., refrigeration engineer of Apex Electrical Mfg. Co., and mechanical design with Wellman Engineering Co., all of Cleveland. He was graduated from the mechanical engineering school at the University of Wisconsin in 1922.

As cabinet design engineer with McCray, Mr. Greiling had a major part in the creation of the company's new, all-steel refrigerators. He was also responsible for the designing, tooling, and originating of the special machinery needed for production of the 1947 models.

It was also announced that George Bently will continue in charge of product and development, Ira Rollins as factory superintendent, and W. R. Howard will remain as factory manager.

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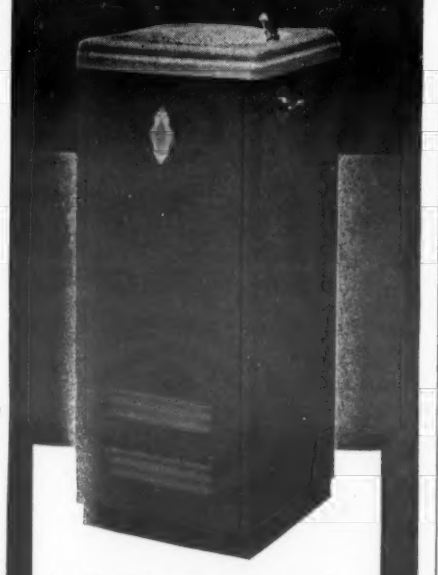

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Install these new PEERLESS Products for Superior Performance

● The new PEERLESS Unit Coolers are designed for easy mounting, require small space for the work they do. Type "R" is for walk-in and reach-in coolers, Type "S" for beverage coolers, bars, display cases and reach-in boxes.

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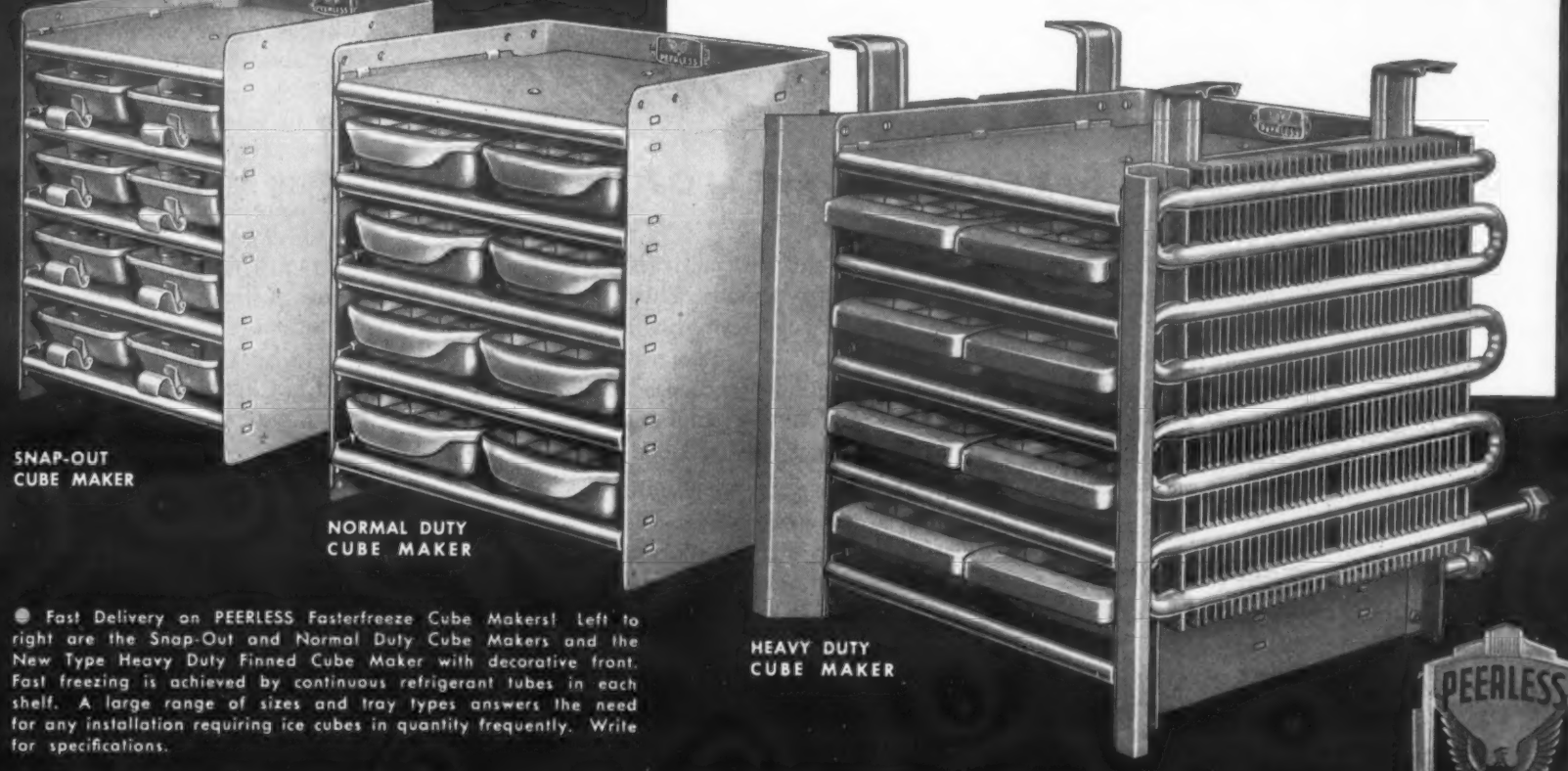

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NORMAL DUTY CUBE MAKER

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● Fast Delivery on PEERLESS Fasterfreeze Cube Makers! Left to right are the Snap-Out and Normal Duty Cube Makers and the New Type Heavy Duty Finned Cube Maker with decorative front. Fast freezing is achieved by continuous refrigerant tubes in each shelf. A large range of sizes and tray types answers the need for any installation requiring ice cubes in quantity frequently. Write for specifications.

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AT LONG LAST! MY BEGONIA! MY GERANIUM! MY SUMMER SQUASH! WE ARE AS ONE— INSEPARABLE! UNDIVIDED!!
EVERY MINUTE OF OUR TIME TOGETHER, DARLING! NOW NOTHING, NOTHING CAN EVER TAKE US AWAY FROM EACH OTHER!
I'VE GOOD NEWS FOR YOU, CORNELIUS. I'M PUTTING YOU ON THE ROAD! FIRST YOU'LL GO TO NEW YORK--THEN DES MOINES, DALLAS AND VANCOUVER-IN FACT, WHEREVER THERE'S A PIN ON THE MAP. YOU'LL BE ON THE GO FROM NOW ON!
SO, SHORTLY THEREAFTER THE BOSS HAD A WORD WITH HIM—
Thanx To MRS. J.F. LANHAM 6756 CHESTNUT ST. CINCINNATI, OHIO.
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JIMMY HATLO
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Profit Future! Because here's a new deal in Water Coolers . . . a sales future to assure *easy sales.*

Now you can tell prospects that if anything happens to the Westinghouse Hermetically-Sealed Refrigeration System within five years, it is replaced at no cost. After that a replacement (if required) is but a fraction of the cost of a complete Cooler.

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- Standard One-Year Warranty on the Complete Water Cooler.
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For details about the availability of Water Coolers, write to Westinghouse. We will have the distributor *in your territory* call directly on you to present complete franchise information.

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The Core of the System

ONE of the most striking and significant features of the wage-price controversy which pervades our political controversies is the strangely fearful and distrustful attitude toward business profits which many Americans seem to harbor.

This attitude is not merely an adaptation of the wrong notion that business concerns are unfairly enriching themselves at the expense of their employes (although this idea is, of course, emphasized by labor leaders in wage disputes). Nor is it the misconception that businessmen can always reduce prices and thereby offset inflationary tendencies—although this point is repeatedly stressed by public officials, from the President down.

The antagonism toward profits goes deeper than this. It rests on the belief that income in the form of profits and other returns to capital, unlike income in the form of wage and salary payments, is seldom spent for goods and services. Saved profits, it is held by this wet-behind-the-ears school of "economists," can't maintain production and employment at high levels. And since production and employment cannot be maintained unless the goods produced can be bought by the wage earners, high profits are regarded by this clique as constituting a positive force making for depression.

The theoretical validity of this doctrine is still a subject of controversy, and its bearing on practical economic affairs is even more uncertain. The Roosevelt Government, however, lost no time in making it a cornerstone of economic policy in the years of depression that preceded the war. More than thirty billion dollars of borrowed money evaporated. Taxes on corporation profits and on individual incomes in the higher brackets were sharply increased. Corporate earnings distributed as dividends were taxed twice—once as income to the corporation and once as income to the stockholders. An attempt was made to force distribution of corporate earnings to stockholders by a special tax on undistributed profits. Government officials received and exercised new powers over credit and currency.

Many of these New Deal nostrums were direct blows at actual and prospective profits. Their effect, according to the over-saving theory, should have been to divert income from business concerns and the owners of capital toward actual buyers—who would expend this income for goods and services. Actual effect of this legislation was to stifle enterprise and prolong the depression.

While the Government poured billions into the income stream, the markets for "risk" capital, remained lethargic. While the volume of bank deposits rose, velocity of circulation declined. While the national debt increased, unemployment continued at levels never before experienced. Artificial stimulants proved ineffective, because the increased costs and risks of doing business were distorted out of all proportion to the diminshed opportunities for profit.

It is an economic truism that money saved is ordinarily spent as truly as is money laid out for the purchase of goods for consumption. When savings are invested in corporate securities, for example, they purchase industrial equipment, and inventories. When they are invested in Government bonds, they are spent for national defense, public works, the services of Government officials, and the other purposes for which the Government spends money. When a corporation saves a part of its earnings instead of distributing it as dividends, it does so for the purpose of buying new plants and equipment.

In all these cases, the saved money re-enters the income stream, is paid out again to workers, investors, and other recipients of income, and plays the same part in maintaining production and employment as if it were spent for food, clothing, housing, or other goods and services for consumption.

It is possible, of course, that the profits of some corporations will be too high, occasionally, just as it is possible for them to be too low. To be desired is a balanced relationship among profits, prices, and wages—a relationship that tends to produce high and stabilized production, employment, consumption, and investment over the long term. Just what constitutes such a relationship at any particular time is beyond the wisdom of any individual or group to determine. The only safe verdict in the long run is that rendered by competition in free markets.

Demand does not create production automatically. It results in production only when it promises a market profitable enough to justify risks, to repay costs, and to attract new capital.

When the profit-urge is removed or weakened, it must be replaced by an equally virile substitute.

The filling of needs is essential to life itself, and any economic system can endure only as long as it performs this indispensable function.

Distributor's 'Model Stores' To Do Away With Catalog Selling

PITTSBURGH—In order to promote its distribution services more intensively, Advanced Refrigeration & Appliance Corp. here has undertaken an extensive expansion program involving physical facilities, personnel, territory, training, and capitalization.

The firm is a distributor of commercial and industrial refrigeration and air conditioning equipment.

Advanced's operations are carried on in a four-story building which has been remodelled throughout. It is open to dealers and their customers Monday, Wednesday, and Friday evenings, in addition to the regular hours.

An outstanding feature of the building is a model store on the first floor containing a complete kitchen, bar, soda fountain layouts, water coolers, and accessories—all in operation. This is intended to replace catalog selling.

Volume of business is reported to have tripled since the program was launched in February. During that period, the company has increased warehouse facilities by one third, doubled the sales organization, added heating experts to the engineering staff, expanded its territory north, east, and west from 28 to 75 counties, enlarged the dealer organization, started a mail-order publicity service, and organized a training program under the "GI Bill of Rights" for 10 veterans.

In April, sales manager K. R. Davis began issuing a semi-monthly trade bulletin for dealers. The publication announces new merchandise, carries inventory suggestions, and reports merchandising trends.

Mr. Davis, who was formerly associated with Kerotest Mfg. Co., is one of three new executives of the concern. During the war, he was on leave from Kerotest with the U. S. Army Transportation Corps and was assigned to production and procurement of refrigeration equipment.

Other newly-appointed officials are general manager J. W. Haver, formerly with Commercial Appliance Co., Greensburg, Pa., and T. N. Melvin, head of the dealer organization, who spent 20 years with Frigidaire and associated companies. Mr. Haver has a background of 15 years' experience in merchandising and refrigeration.

The company says its expanded facilities and personnel now enable it to rebuild "anything in refrigeration equipment."

With intensively-trained personnel, the concern reports, it will be able to assist its dealers in selling, engineering, and laying out air conditioning systems for entire office buildings, hotels, clubs, and other similar structures.

Terms of Contract That Settled Airtemp Strike

DAYTON — Airtemp division of Chrysler Corp. got back into full production during the week of June 9, following settlement of the strike of the United Electrical Workers (CIO) which had closed the plant April 14.

The management and the union agreed to the reinstatement of the old contract with the following modifications:

(1) The reinstated old contract is to run for two years except that both the company and the union may each once reopen the question of general wage rates during this period.

(2) The clause in the old contract requiring maintenance of union membership is removed from the contract.

(3) The clause in the old contract in which Airtemp agrees to check off union dues on written request of the employe is retained.

(4) An 11½ cent general wage increase and provision for six paid holidays and four hours call-in pay go into effect.

(5) The bargaining procedure is clarified with arbitration provided as the final step under specified conditions.

(6) New provisions are included for disciplining employes who interfere with production or strike in violation of the contract.

(7) Seniority is clarified and the probationary period is reduced from six months to three months.

15% REDUCTION TO DISTRIBUTOR TO DEALER

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Five Sided Refrigerated Pure Virgin Copper Tank. Refrigerant lines soldered on five sides to copper tank and concealed in walls.

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This self-contained "plug-in" unit engineered for outstanding performance in any type of store or institution is A MUST wherever foods or beverages are served. Can be used as both beverage cooler and food refrigerator. Has compartment for both wet or dry chilling of bottled and canned beverages. *BEV-FOOD is the ONLY COOLER THAT CAN BE OPERATED WET OR DRY.* Can be used entirely for dry refrigeration from bottom to top of each compartment. Top opening prevents spill-out of cold.

IMPORTANT!

DEALERS NOTE: This cooler is not just a beverage cooler but can be used more successfully than any other cooler in the preservation of

Hamburger—at normal temperatures for 30 days.
Sweetbreads—ten days without spoilage.
Steaks and chops—almost indefinitely.
Fish—lake and deep sea—better than ice.
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Cabinet Dimensions	65⅜" x 38" x 29½"
Refrigerant	F12 Freon.
Condensing Unit	Quarter Horse-Power, Twin Cylinder Air Cooled. Equipped with Tecumseh or Universal Unit.
Motor	Quarter Horse-Power, 60 Cycle, Single Phase, 1750 R.P.M., 110 Volts, Capacitator Type.
Exterior Finish	Silver Blue.
Top of Cabinet	Natural Stainless Steel with 2 Stainless Steel Sliding Covers.
Bottle Capacities	Top Compartment—Standing: 104 12 oz. bottles, Lying: 192 12 oz. bottles. Side Compartment—Standing on Shelf: 49. Standing Below Shelf: 64, or lying down: 150 12 oz.
Food Storage Dimensions	Slightly more than 7½ cu. ft.
Food Compartment Dimensions	21¼" wide; 28⅞" high; 20¾" deep.
Lighting	Automatic Light in Food Compartment.
Finish (Interior)	White Porcelain Enamel.
Top Compartment Dimensions	35¼" high x 20¾" wide x 15½" deep. (Slightly larger than 6½ cu. ft.)
Cold Control	8 pt.

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200 KIBBY ST., LIMA, OHIO, U.S.A.

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RESTAURANTS	TAVERNS	BEVERAGE BOTTLERS
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RETAIL PRICE only $385 f.o.b. factory

The cost per cubic foot of usable refrigeration space in this size range is probably the lowest in the history of commercial refrigeration.

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Ask your distributor for this great profit-maker—or write us for his name. Distributed in many areas by G.E. Supply Corp.

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Write for details of franchise for open territory.

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☐ Please send more details on BEV-FOOD.
☐ Please send the name of the BEV-FOOD distributor in this territory.
☐ Please send details of distributors' franchise.

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Field Report

What are dealers, distributors, servicemen, and the others on the industry's front lines thinking about today? These "Field Reports"—extremely popular in prewar days—now give NEWS readers the latest ideas of the men closest to the all-important consumer.

Trim Finance Plans to Farmer's Income For Appliance Sales In the Rural Market

WELLSTON, Mo.—Boeckeler Lumber Co. here, which went into the appliance field with a complete Frigidaire franchise in early 1946, is finding that the best way to sell appliances to farmers is to offer them finance plans "tailored to the farmer's individual income."

The 100-year-old lumber yard is aggressively merchandising to farmers whose incomes are at an all-time peak for the most part. Direct mail goes out monthly to 4,500 satisfied customers who have purchased lumber, building supplies, electric fences, pumps, milkers, and other equipment from the Boeckeler Lumber Co., and is now emphasizing the convenience of modern electrical appliances to customers living along REA lines in northeast and northcentral Missouri.

In addition, Les Snodgrass, sales manager for the company, is running weekly display ads in the *St. Louis Globe Democrat,* a morning newspaper which has a large circulation in Missouri rural districts extending west to Fulton, Mo., 150 miles away.

For a novel approach to the "farmer-market," Mr. Snodgrass and all of his five appliance salesmen wear white overalls on the floor, together with blue denim shirts, work shoes, and all of the other paraphernalia concomitant with running a modern electrically equipped farm. Newspaper advertising, billboards, direct mail, etc., consist of homely information headed by the title "Cousin Les sez." Through these advertising mediums, plus a large line of farm materials, Boeckeler Lumber Co. regularly brings in more than 500 farm customers every Saturday.

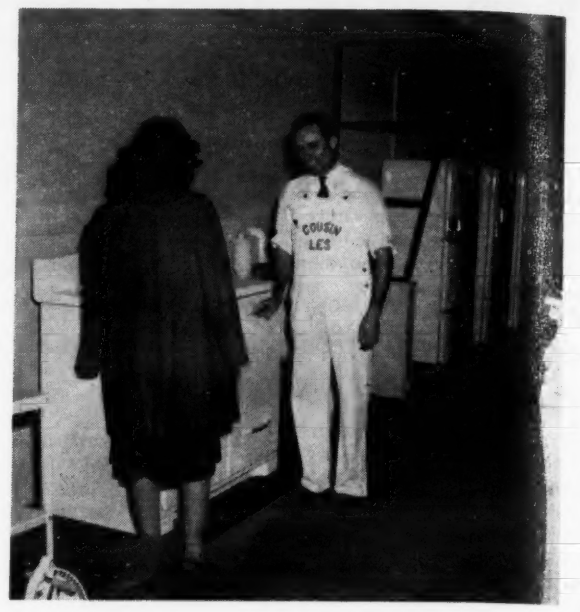
Financing—once the chief bugaboo in selling to the farmer whose income is marked by sharp peaks through the year—has been solved by simply tailoring each finance plan to whatever the farmer's circumstances may be.

For example, if a customer wishes to buy a refrigerator, a range, and a washing machine, but does not expect crop returns for six months in the future, Boeckeler Lumber Co. will accept the down payment, deliver the appliances, and collect the balance in two payments several months in the future.

One of the most effective sales points which Manager Snodgrass perpetually presents to farm customers is the fact that subscribers along REA lines are paying $5 a month or so for the privilege of electrical light, electrical power in the dairy barn, pumping water, etc.

Boeckeler Lumber Co. demonstrates that cost for operating three or four major appliances are readily absorbed into the overall subscription cost per month, and will not add a cent to farm operating costs except in rare instances.

A 'Farmer' Tackles Farmer's Market



Salesmen dress like the modern farmer in clean, white coveralls at the Boeckeler Lumber Co. appliance outlet in Wellston, Mo. Concentrating on the rural market, the Boeckeler firm goes to considerable lengths to meet the special requirements involved in this market, such as individual payment plans which fit in with the farmer's pattern of income. Les Snodgrass, sales manager, also uses a lot of advertising in building rural sales. Here he points out the advantages of a range to a bride.

"ATTENTION"
Refrigeration Dealers in New York State Vicinity

Announcing our new and improved "Walk-In Coolers" and "Freezers," built of Finest Grade Polished Aluminum Alloy or of the Finest Grade of Kil-Dry Lumber.

Also announcing the newest thing in Refrigeration: "The Amazing New **Freezocool**," the combination Cooler and Freezer.

We Build 'Em To Your Specifications
For further details on prices, sizes, etc., write or call:

Preserve Units Products Company
130-132 Allen Street
Rochester 6, New York
Tel. Main 7961
"Manufacturers of all Commercial and Home Refrigeration Units."

FOR SALE
— IMMEDIATE DELIVERY —
ELECTRIC MOTORS

1,000—¼ H.P., 110 V, 60 cy., 1750 RPM BALL BEARING, SPLIT PHASE, RESILIENT MOUNT
SUITABLE FOR USE ON IRONERS, WASHERS, FANS & BLOWERS .....$25.00 ea.
500—1/25 H.P., 115 V, 60 cy., 1550 RPM SHADED POLE, TOTALLY ENCLOSED, FAN COOLED, ROUND BODIED....$10.00 ea.
ADDRESS BOX 2392, AIR CONDITIONING & REFRIGERATION NEWS

Temprite
SODA FOUNTAIN AND BEVERAGE
COOLERS

● Patented Temprite principle of direct heat transfer guarantees top efficiency, accurate temperature control. Even during peak rush periods, unit will deliver perfectly cooled liquids. 18-8 corrosion-resistant stainless steel coils safely handle all carbonated or non-carbonated beverages. Six models to serve either 1, 2 or 3 different beverages.

TEMPRITE PRODUCTS CORP.
43 PIQUETTE AVE. • DETROIT 2, MICHIGAN

Field Report

Free Speech Classes for ALL Employes Benefits Firm, Distributor Believes

SALT LAKE CITY—Whether a truck driver or the office manager, every employe of Flint Distributing Co., distributor of appliances here, is enrolled cost-free in a speech development class conducted by an authority in salesmanship and speech training, Dr. Royal Garff.

"I have never regretted a dime I ever spent in improving the capabilities of my employes. Such expenditures have always benefitted our company in the long run," declares Leland B. Flint, general manager of the concern which distributes Bendix home appliances in Utah.

Two classes weekly are held in the distributor's building. One is for all employes and the other is for the sales staff exclusively. All employes participate in one session a week because Mr. Flint feels that "every employe is a salesman, regardless of his position."

Aim of the course is to teach the fundamentals of speaking so that employes will be at ease before customers and able to think on their feet when questioned.

Inaugurated in September, 1946, the speech development classes were undertaken to put war-rusty salesmen "back into the harness of true salesmanship," Mr. Flint says. "Already the courses have begun to produce results."

Dr. Garff has taught speech at Northwestern university and the University of Utah. He was assistant director of retail training for Montgomery Ward Co. and now is vice president of an automobile agency here.

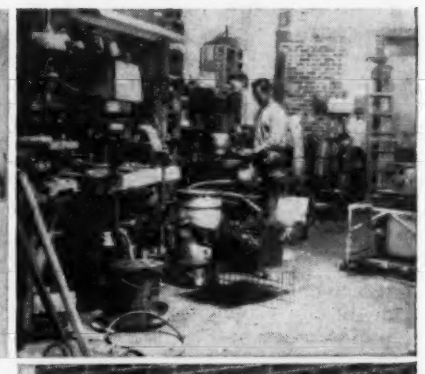
This Dealer Sometimes Finds It a Pretty Tight Squeeze

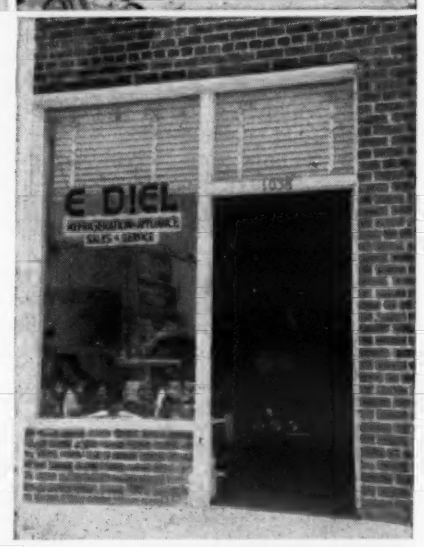
FRESNO, Calif. — "It's a small world." At least it is for E. Diel, who operates a refrigeration and appliance sales and service store in a building that only 12½ ft. wide—on the outside.

It seems, says G. C. Armour, refrigeration supplies wholesaler here, that Mr. Diel was angling for 25-ft. frontage on F. St. in Fresno's Chinatown, where real estate is at a premium. He bought a 12½ by 150-ft. strip, but found that he couldn't swing the deal for the adjoining lot. So . . .

Mr. Diel decided to go ahead anyway, and, says Mr. Armour, "it's surprising how well it is working out."

In the front there's an appliance sales and display room which measures 11 ft. 2 in. wide by 75 ft. long. The shop takes up the rear 45 ft., but it's not too small to keep Mr. Diel from handling any domestic repair job, including hermetics.





Raised slightly above the showroom floor level, the shop is over a 45-ft.-long basement area. Midway in the building are ramps to the shop and basement.

As Mr. Armour explains it, "there is a ramp down and a ramp up which sounds impossible and confusing but actually works all right."

Note the sign on the show window. Mr. Diel did it himself.

Washer, Ironer Sales Gain Sharply over '46

CHICAGO — Sales of household washers for the first four months of 1947 increased 136% over the same period last year while ironer sales jumped 423%, the American Washer & Ironer Manufacturers Association has reported.

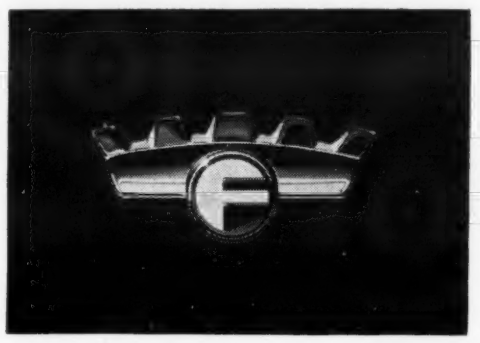
New highs in the sale of both products were reached in April, the association added.

Sales for the first four months this year totaled 1,125,210 washers and 164,599 ironers. This compared with 2,023,981 washers and 124,616 ironers for the entire year 1946.

Standard size washer sales during April numbered 319,969. They were 290,397 in March and 104,296 in April, 1946.

Ironer sales totaled 51,409 during April, 42,442 in March, and 11,898 in April, 1946.

Portable washers with a maximum capacity of 3 lbs. were reported on for the first time this year. Sales for the first four months aggregated 180,840 units. However, sales dropped from 47,000 in March to 33,840 in April, the association declared.



Revolutionary!

NEW METER-MISER FOR COMMERCIAL USE

Now available for the first time! A revolutionary new, complete, compact, small but powerful, air-cooled, rotary-type refrigeration unit designed especially for commercial and industrial applications. Here's new Refrigeration Security . . . and only Frigidaire has it.

SEALED-IN-STEEL OILED FOR LIFE

It's simple. 25-50% lighter in weight. Has no belts, no pulleys, no pistons, no seals. Needs no oiling. This means low-cost operation and really simple maintenance. The Meter-Miser is backed by a special Frigidaire 5-year warranty. This, too, means Refrigeration Security!

PRECISION-BUILT PROVED BY TEST

Parts are accurately machined to tolerances of 1/10,000 of an inch. Dependability of design has been proved by more than 4 million household Meter-Misers already built and sold . . . and further proved by 6 years of field test in commercial installations. It's revolutionary. It's a Frigidaire exclusive! It's genuine Refrigeration Security!

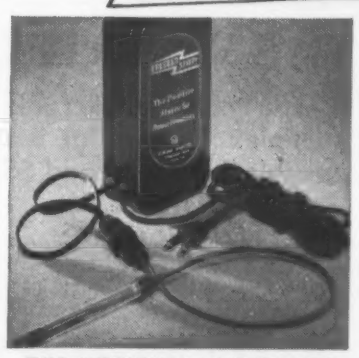
Depend on FRIGIDAIRE to do things RIGHT!

You're twice as sure with two great names

Frigidaire made only by **General Motors**

FRIGIDAIRE DIVISION, GENERAL MOTORS CORPORATION, 300 TAYLOR STREET, DAYTON 1, OHIO

FREEZER SENTRY



THE POSITIVE ALARM FOR ALL FROZEN FOOD CABINETS

● The simplest device you have ever seen to warn of mechanical troubles. Designed for use in any low temperature cabinet. Can be installed in two minutes by anyone.

Buzzer, battery operated. Trickle charger insures five-year battery life. Buzzer operates 100 hours. Actuated at plus 12°F by mercury contact. No thermostat to get out of order. Action is as positive as gravity.

A package item that sells itself on the first service call, or to new owners of freezers.

Immediate delivery. Write us for details and discounts.

JEWETT ASSOCIATES
1053 MAIN ST. BUFFALO 8, N. Y.

Frozen Food Market To Absorb 500,000 Low-Temp Units In '47, REMA Survey Shows

CHICAGO — The refrigeration industry expects to manufacture in 1947 more than 500,000 units of low temperature going directly into use in one division or another of the frozen foods business, and not including equipment for home use, according to a recent survey of the current situation in the production of frozen food equipment completed by the Refrigeration Equipment Manufacturers Association.

"The mechanical refrigeration industry based its first postwar production plans on the increase in frozen food consumption from 300 million pounds annually at the start of the war to more than one billion pounds annually at the current rate," a statement from the association said.

"This is an increase of slightly more than 300% which is approximately the same increase as has been attained in the production capacity of the industry.

"For the future, the manufacturing industry has considered, in making its plans, the recent prediction of government economists that, within 10 years, about 50% of all perishable foods will be preserved by freezing. At present, less than 2% of perishable foods are frozen."

Here is the way members of the Refrigeration Equipment Manufacturers Association view the existing market for frozen food equipment:

Frozen Food Processors

Approximately 750 companies in the food industry now are engaged in processing and freezing foodstuffs in one form or another. In most cases, the larger packers concentrate on freezing fresh vegetables, fruits, meat and fish on a volume basis, but many smaller plants are well into the distribution of frozen specialties ranging from frozen hors d' oeuvres to frozen pie.

All these companies employ mechanically refrigerated fast freezing equipment that produces temperatures as low as -35° F. Most processors, in addition, have their own freezer warehouse space or zero holding rooms, and many of them operate their own refrigerated trucks or trailers.

Since commercial fast freezing started in the early 1930's and had reached an annual production exceeding 100 million pounds by 1938, much of the equipment of processors is out of date or in need of replacement, and more efficient freezing methods developed during the war and later have influenced processors to revise methods and purchase new equipment. The immediate market for freezing equipment alone in processing plants is estimated at $10,000,000.

Added to this market, manufacturers have been advised of the need for additional freezer warehouse facilities for private use by packers. One report indicated that at least 300 processors are planning to build their own freezer storage space equivalent in total capacity to 1500 railroad cars or some *60,000* tons, all for storing frozen foods at point of production.

Manufacturers also have been advised of the intention of some packers to build mobile processing plants which can be moved to areas of actual food harvesting or production, permitting freezing operations to be completed immediately. This will create a further demand for new and complete refrigeration equipment.

Not included in the above are the new equipment and replacement requirements of the 6,400 ice cream plants in the United States, all of which use mechanically refrigerated equipment.

Frozen Food Warehouses

Although nearly 20 million cubic feet of freezer space has been added in public cold storage warehouses since 1943, the Department of Commerce estimates that still only 15% of the 800 million cubic feet of cold storage space in public warehouses is freezer space. The remainder is ordinary cold storage space for eggs, butter, meat, poultry, and other perishable foods that are not frozen.

Based on the predictions that 50% of all perishable foods will be preserved by freezing by the middle 1950's, an additional 360 million cubic feet of freezer space eventually will be required in public warehouses. Manufacturers believe the immediate market is for equipment to provide zero temperatures in at least 50 million additional cubic feet of storage space.

Frozen Food Transportation

Although nearly 100 million pounds of frozen foods were shipped in refrigerated railroad cars in 1945, it is estimated that there are fewer than 1,500 insulated refrigerator cars in present service that have refrigeration equipment for transporting frozen foods.

It also is reported that there are only 4,600 trucks with direct-mounted bodies and only 4,700 semi-trailers that are insulated and refrigerated. Very few of these have equipment to maintain 0 °F. temperatures needed to properly preserve foods after freezing.

To supply the transportation needs in the frozen food field through all channels of distribution from producer to retailer, more than 2,000 new railroad cars and 10,000 new trucks and trailers are needed at once, according to frozen food economists.

Frozen Food Distribution (Wholesalers)

About 400 frozen food distributors, 78% of whom formerly were engaged in handling other food products, either maintain their own zero storage facilities or use public warehouses. It is estimated that 350 of them need new or larger zero storage space, and one authority estimated that low temperature refrigeration equipment would be required to maintain zero temperatures for one to four freight carloads of frozen foods for each distributor.

Another industry spokesman predicted that frozen food distributors will require some 2,000 new "on-the-premises" zero holding rooms of 50,000 pounds or more capacity.

Frozen Food Locker Plants

Some 8,000 frozen food locker plants now serve 13 million persons in farm or rural areas, according to the Department of Agriculture. In 1943, the number of locker plants was only 4,600, and various estimates put the future increase at as high as 3,000 to 4,000 per year, or a total of around 20,000 by 1950.

Since locker plants use both subzero equipment for freezing food and zero equipment for storage, refrigeration industry leaders look for one of their biggest increases in the direction of enlargements to present plants and entirely new plants.

Frozen Food Retailers

Recent Department of Commerce figures indicate that only 40,000 of 600,000 retail food stores now have equipment designed to store frozen foods at zero temperatures. The refrigeration industry has established 150,000 retail storage and display units as the current requirement of general food stores, department stores with food departments and stores that handle frozen foods only.

Part of this production would go to stores already selling frozen foods, but it is believed that there should be sufficient output to provide equipment for 25,000 to 50,000 new stores and stores not now handling frozen foods.

Frozen Food Lockers In Apartments and Retail Stores

This is a comparatively new field, but one which will gain great headway as soon as new construction and remodeling increases in volume. Success of locker plants in rural communities have encouraged refrigeration leaders to plan for similar acceptance of the frozen food locker idea in metropolitan cities where lockers could be installed in apartment buildings or in connection with retail stores.

Individual lockers in these installations would be smaller in size, but the number, according to forecasts, should be at least equal to the lockers in rural plants.

Average Homes and Farms

The potential market for home and farm freezers and frozen food storage cabinets has been estimated by manufacturers at 1,000,000 units and the potential market for new domestic household refrigerators has been figured at 17,500,000 units by the Department of Commerce. Most new home refrigerators have frozen food compartments of one or more cubic feet.

Large Homes and Farms

The demand for large walk-in type refrigerators, most of them with sizeable frozen food compartments, has been forecast at around 25,000 units during the next two years. These installations, which are comparable in design to restaurant and other commercial equipment, are easily installed, some of them in sections, and are adaptable to large families and the requirements of establishments where food supplies are larger than can be kept in the largest home refrigerator.

Restaurants and Hotels

Some 200,000 restaurants and 10,000 hotels, all of them with mechanically refrigerated equipment, comprise the potential market for new equipment that will include facilities for storing food at zero temperatures.

Institutions and Industries

Since frozen foods appear to be a "natural" for establishments with large scale food facilities, industry leaders envision new low temperature equipment demands from 6,400 hospitals, 4,750 business and industries with their own restaurants or cafeterias, 7,000 golf, country and social clubs, 700 colleges, 2,000 government, state, county and municipal institutions, 1,700 penal institutions, and others which bring the total to around 25,000 throughout the country.

Many new establishments are projected in each classification—new eating facilities are reported planned in 2,700 manufacturing plants.

DISTRIBUTORS WANTED!

If you can handle sales, installation and service for Multiplex Fixtures for Bars and Taverns—then it is quite possible for you to add $50,000 or More per year in Sales.

Distributing:

The Sensational New MULTIPLEX BAR DISPENSER

Designed and Engineered for Tavern and Bar Service

- √ IT ELIMINATES BOTTLES
- √ IT MANUFACTURES FRESH carbonated soft drinks (seltzer, cola, lemon, ginger ale, etc.) as easily as drawing a glass of beer
- √ IT SPEEDS BAR SERVICE 100%. Increases profits tremendously

Write us for Free Bulletin

MULTIPLEX FAUCET COMPANY

Manufacturers of Soft Drink Dispensers for over 40 years.

4319-25 Duncan Ave. (Division 12) St. Louis, Mo.

there's a DOLE Engineer in the field near you!

In our 20 years of developing and furnishing equipment to the refrigeration industry, we at Dole feel that the products which we pioneered—the Vacuum Cold Plate and the Vacuum Hold-Over Plate—have made numerous applications more efficient, more economical and in many cases, even possible.

Wherever you may be located—we have at your service a highly trained, thoroughly experienced refrigerating engineer ready to assist you with the planning of new installations, etc., and to help you or your engineers, service men, and salesmen, with any problems regardless of what they might be or what type of equipment might be involved.

Call our field engineer to assist you whether the job be old or new, large or small. He can help you and advise you. Should plate equipment be necessary, he can supply you with the best through your local or nearby jobber, distributor or dealer.

Our highly trained plant laboratory staff of engineers are also at your service.

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DOLE Vacuum COLD PLATES
Maximum Refrigeration Efficiency
for all REFRIGERATION PURPOSES

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TWENTY YEARS OF SERVICE TO THE REFRIGERATION INDUSTRY

DOLE REFRIGERATING COMPANY

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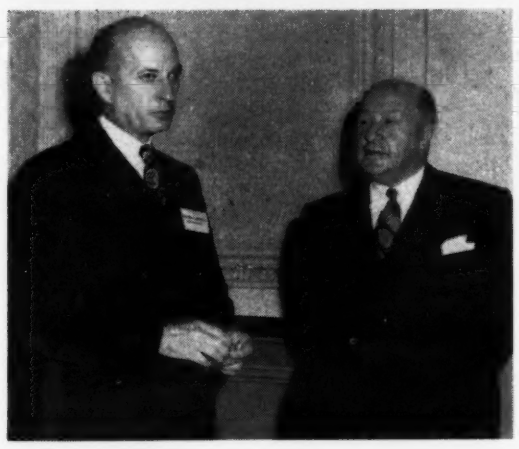
NEW YORK BRANCH, 103 PARK AVENUE, NEW YORK 17, NEW YORK

First ASRE West Coast Meeting In 30 Years Is Counted Big Success

(All Photos by Austin Jones, Kerotest Co.)

Detroit section members dominate this group. Roy Yantis and John Marshall of the Wolverine Tube Division, and Ed Kellie of American Injector Co., with Mr. and Mrs. Lawrence Roth, Refrigeration Service, Inc., Los Angeles.



R. H. Money (left) of Reynolds Metals Co., and president of the ASRE, with William Jeffers, vice president of the Union Pacific Railroad, whose luncheon speech made front-page news.

Like George Taubeneck's famed story, "Los Angeles was just like St. Paul, Chicago, Philadelphia, and New York" for members of the Choral Wing of the Bun and Meatball Society. Caught in the middle of a pianissimo passage are (l. to r.) H. J. Levins, C. L. Babin, Cecil Boling Co.; Herman Spoehrer, Sporlan Co.; Prof. Burgess H. Jennings of Northwestern Technological Institute; and Harvey Hottel of Goddard-Hottel Corp., Washington, D. C. The busy man in the left background (with back to camera) would be Bill Carmody, Chief Steward of the Bun and Meatball Society.

(Left) In this group are some of the hosts. Left to right are: Van D. Clothier, Los Angeles manufacturers' agent; Mrs. Les Burgess; and J. W. Rubenson, Day & Night Mfg. Co.

(Right) More of the Los Angeles "natives." Left to right: A. H. Bigony, Commercial Refrigeration Co.; N. S. Templin, Refrigeration Contractors Association of Los Angeles; Earl P. Wells, Industrial Refrigeration Co.; Bernard Solomon, Ralph E. Manns Co.

Left to right here are L. R. St. Onge of the Philadelphia section; A. J. Hess of Los Angeles, a speaker at the technical session; and L. Logan Lewis, Carrier Corp.

Some 500 members and guests of the American Society of Refrigerating Engineers who attended the spring meeting of the Society held earlier this month in Los Angeles termed it "one of the best." It was the first Coast meeting in 30 years. Austin Jones, widely known in the industry for his camera work at conventions, was on hand to get these pictures of convention personalities and highlights.

A. J. Norris of Kerotest Mfg. Co. and Mrs. Norris pose for Cameraman Jones.

Prof. Burgess Jennings, ASRE vice president, and Al Chadburn, assistant secretary, confer as Frank Carter, Detroit Lubricator, provides piano accompaniment.

Warren Farr (left) of Cleveland, president of the National Association of Refrigeration Contractors, confers with Charles Neeson, Chrysler-Airtemp engineer.

C. W. Hulse, San Francisco section, rides a horse in the hotel ballroom during the "Western style" party which the San Francisco group sponsored one night during the convention.

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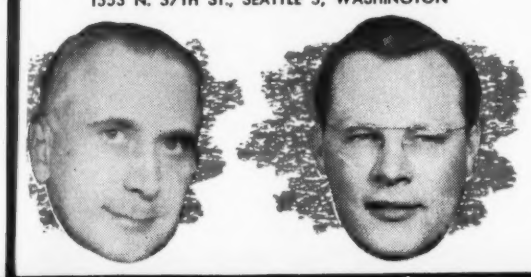

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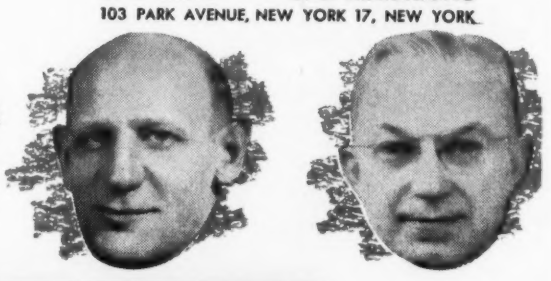

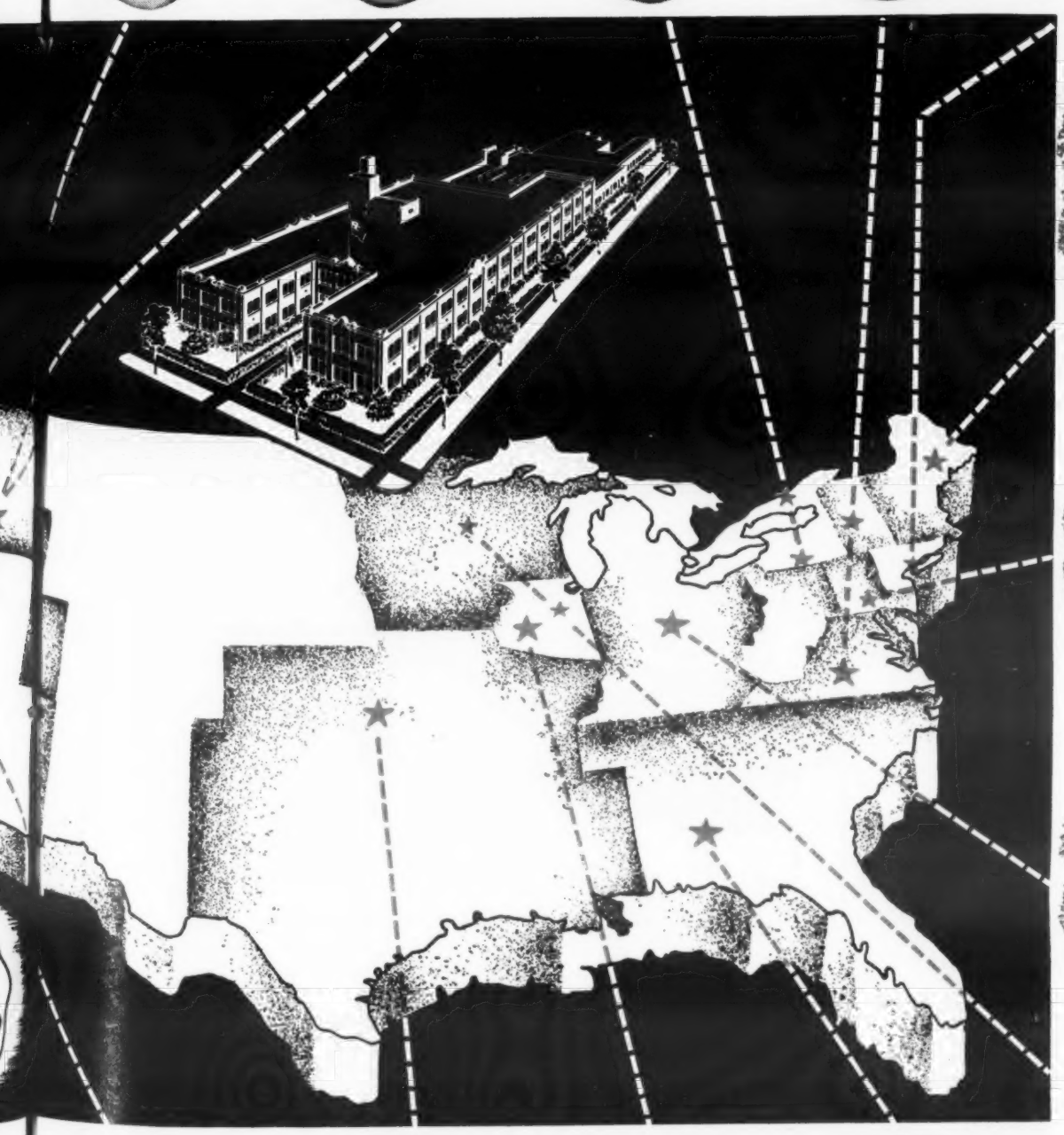

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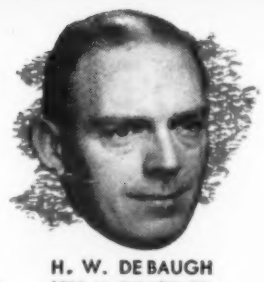
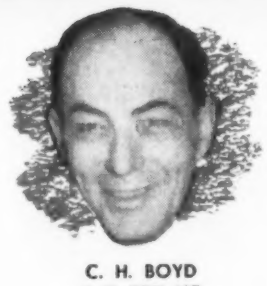


C. H. BOYD
P. O. BOX 407
ATLANTA, GA.



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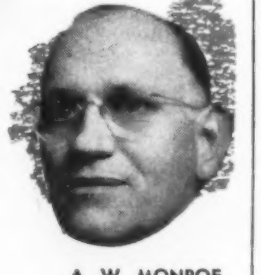

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Combines Appearance and Performance with PRACTICAL Design

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Finished Crackled Brown or Hammered Grey Baked Enamel

announces
THE NEW
NAT
(self contained)
AIR CONDITIONER

The Nat Air-conditioning Unit's unique design, based on 17 years of research directed by Nathan Baraban, makes it—

The Answer to the Service-Man's Prayer

All working parts are accessible without having to tear down the cabinet. A saving of time and labor.

The NAT Unit comes in 3 sizes: 3.0, 4.2 and 5.4 Tons

Sold through exclusive dealers and distributors some territory still open — inquiries invited

The NAT *Corporation*

2710 McGee Trafficway • Phone HA. 1892 • KANSAS CITY, MISSOURI

The Nat Corporation also manufactures the NAT Suspended Gas-Fired Unit Heater

What's New

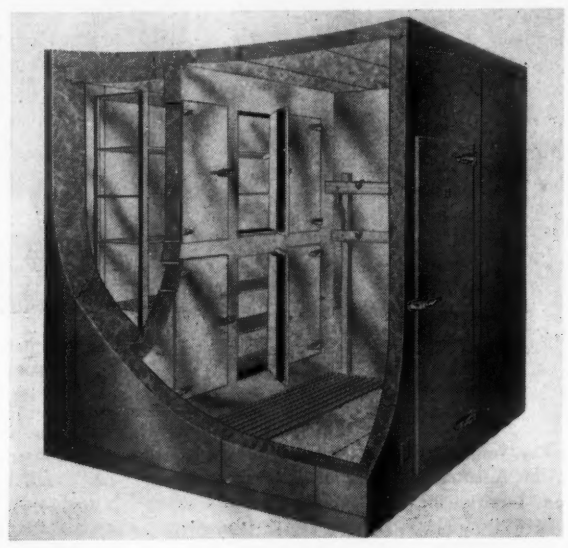
Cleveland Refrigerator Adds 2 Coolers to Line

CLEVELAND — Addition of a sectional, dual-temperature walk-in cooler and a florist cooler to its line of Miracool refrigerators is announced by Cleveland Refrigerator Co. here.

Of all-steel construction, the new walk-in is being manufactured in three widths, 6, 8, and 10 ft. It can be increased to any size by adding sections to either the normal-temperature anteroom or the freezer room, according to the producer.

It is said to be unique in that the partition dividing the two rooms consists of reach-in doors to the freezing compartment containing cold-plate shelves. The partition is also available with either a walk-in fitting door or a lap-type freezer door leading into a bare freezing room or one with quarter rails, hooks, and shelves for meat storage.

The cooler was designed from compilations of "numerous requests" from the refrigeration trade, Cleveland Refrigerator said. Both the walk-in and the florist cooler are described and illustrated in a new broadside which was issued by the company.



Miracool sectional, dual temperature walk-in.

International Harvester Makes 4-cu.ft. Freezer

CHICAGO—A 4-cu. ft. chest type home freezer, said to contain all the basic features of the company's 11-cu. ft. freezer, has been placed in production by the International Harvester Co. here.

Designed for smaller families, the new freezer provides storage for approximately 140 lbs. of frozen foods, the company said.

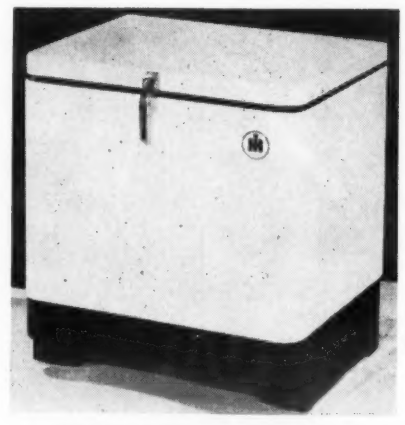
It is equipped with a hermetically sealed compressor, fiber glass insulation, a spring-counterbalanced floating type lid, white Dulux baked enamel finish over Bonderite, both inside and out, and a recessed base to provide toe space for the user.

It measures 36¼ x 24½ x 33 in. It has a flat top and a smooth, one piece breaker strip.

The chrome plated latch handle is said to close the lid positively against a live-rubber, balloon gasket.

Cooling coils pass completely around the inner compartment.

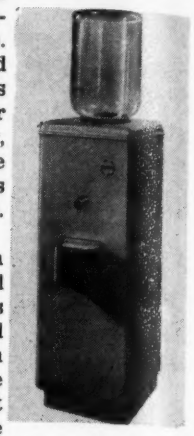
* * *



International Harvester 4-cu. ft. chest type home freezer.

Sunroc Introduces 3-Gal. Bottle Type Water Cooler

GLEN RIDDLE, Pa.—A new electric, 3 gal., bottle type water cooler has been introduced in both standard and deluxe models by the Sunroc Refrigeration Co. here.



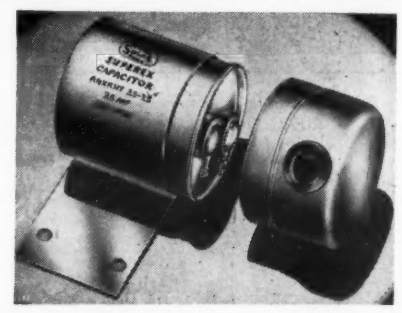
The standard model, known as US7B2, is ready for immediate delivery, according to the company. It is priced at $225 f.o.b. factory here.

Difference between the standard and deluxe models is that the standard has a push button control while the deluxe has a foot pedal control, the company announcement indicated.

Elimination of corrosion on these models by the skillful use of stainless steel is claimed by the company.

The unit is equipped with an air cooled condenser; Rancostat, type B, electrical control; resistor type refrigerant control; an exclusive tube-in-tube low side; silver soldered refrigerant joints, "Freon-12" refrigerant; and double flared connections.

When an hermetically sealed compressor is used, the motor is rated at ⅛ hp. When a conventional type unit is employed, the motor is rated at ¼ hp., according to the company.



Capacitor Permits Direct Tie-In for Motor Leads

NEW YORK CITY—A new a.c. paper capacitor for small motors, featuring a "Snap-Cap" arrangement which permits motor leads to be soldered directly to the capacitor terminals, has been introduced by the Solar Mfg. Corp. here.

Use of the "Snap-Cap" avoids the need for splicing connections between capacitor and motor winding, the company claims.

The capacitor, known as type ANXRHT, is filled under high vacuum with Superex, Solar's exclusive non-flammable synthetic capacitor impregnant, according to the manufacturer.

Another feature, the exceptionally heavy gauge container, along with the "Snap-Cap" arrangement, enables the unit to comply with Underwriters' Laboratories requirements without the use of supplementary end-bells and brackets.

Weatherhead leakproof dryers and strainers insure easy flow of refrigerant

WEATHERHEAD dryers and strainers are leakproof because they are constructed of seamless steel tubing with formed steel ends and multiple screens, hydrogen brazed into an integral assembly. They have no soft solder seams or gaskets.

The Silica Gel drying agent used in Weatherhead Dryers insures free flow of the refrigerant because it does not powder or break down. No organic filters or felts are used which might in themselves, clog or impede the flow of the refrigerant. This assures minimum pressure drop.

Weatherhead dryers and strainers are corrosion proof. Dryers are made in both rechargeable and non-rechargeable types.

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The complete history of Weatherhead's development, testing and engineering facilities are completely explained in our new book entitled, "Prospecting for Perfection". Free copy sent on request.

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ATTENTION REFRIGERATION ENGINEERS!

We manufacture valves, dehydrators, strainers, manifold assemblies, accessories and fittings—an extensive line of original equipment for the refrigeration industry.

Another NATIONAL product that keeps our factory humming

STAINLESS STEEL WORKBOARDS

Constructed of all steel, in a variety of layouts including 3 tubs, with or without cocktail units, all lengths, 18" and 22¼" widths. Send for catalog.

By the makers of the famous

NATIONAL DRY BEVERAGE COOLERS

NATIONAL COOLER CORP.

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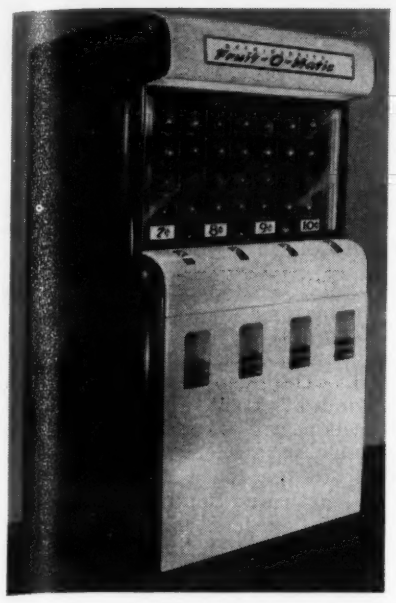
Manufacturers Stainless Steel Restaurant Equipment

What's New (Cont.)



Fruit-O-Matic.

* * *

New Refrigerated Vendor Holds 4 Types of Fruit

VAN NUYS, Calif.—Among the latest items in refrigerated vending machines is one that reportedly delivers up to four types of fruit costing one to 10 cents upon insertion of nickels or dimes.

And if you've got any change coming, the fully-automatic vendor will dispense that too, it is claimed.

"Fruit-O-Matic" is the name of this machine, which has just been introduced by J. H. Oatey, president of Kold Krisp Apple Service, Inc., here. Mr. Oatey will govern the policies on leasing, franchising, or selling the unit.

Designed by Frederick K. Storm, of California, the illuminated vendor is said to hold 208 individual pieces of fruit. Four electrically-operated rotary bands individually control the vending of 52 pieces each.

The machine is loaded from the front by opening the triple-plate display window. The window, designed to prevent frosting, displays approximately 90 pieces of fruit separately suspended, an announcement says.

Easy servicing of the refrigeration unit is claimed to be enabled by "a simple disconnect method" which permits the unit to be free of the vendor by removal from the mounting tract. No other details of the refrigeration system were given.

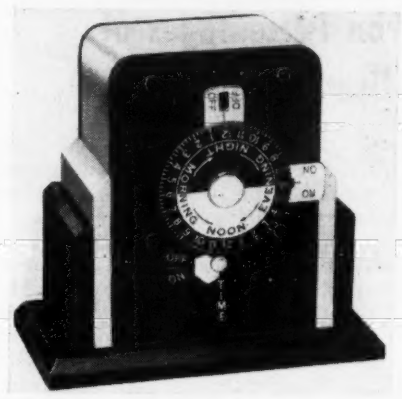
Patents are now pending covering the unit's design and mechanical features, according to Mr. Oatey.

"Ten units are now in the field and have been very successfully received by the consumer," he said. "Further production facilities and material procurement negotiations are now in progress and it is planned to have 'Fruit-O-Matic' on a regular production basis for availability within 90 days."

Robot Turns Appliances On, Off by Pre-Setting

MILWAUKEE — "Plug-in" household appliances and lights are turned on and off automatically at any preselected time by the Robot, a portable, 24-hour control developed by Miller-Harris Instrument Co. here, manufacturer of time and temperature control systems and instruments.

Once the device is set, it will continue the "on-off" operation day after day at the same time unless the setting is changed, according to the manufacturer, who stresses that it is



Miller-Harris Robot.

"not an ordinary electric clock with a switch added."

Housed in an aluminum and plastic case about 4 in. wide and high and 2 in. deep, the mechanism consists of a Telechron synchronous electric motor, gears, and switches. A positive snap-action type electrical switch with pure silver contacts is said to be used.

The Robot is equipped with a cord that plugs into an electrical outlet. Lights and appliances to be controlled are plugged into an outlet on the control. "On" and "off" pointers on the dial are set for the hours desired.

Here are some of the things the Robot is reported to do:

"Defrost your refrigerator automatically every night, turn lights on and off while you are away to provide burglar protection, turn your radio on to wake up to music and turn it and lights off after you go to sleep, start your coffee percolator before you get up, turn your roaster on and then off, and in winter turn on the bathroom heater.

Tal-Co Water System Uses Separate Temprite Coolers

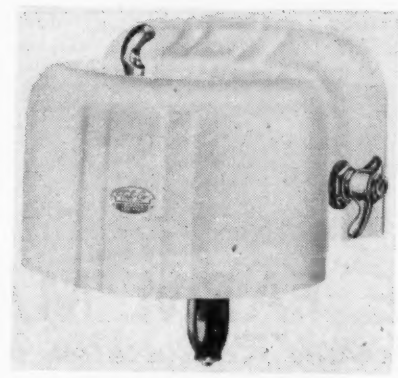
CHICAGO—In Tal-Co Mfg. Co.'s multiple-outlet water cooling system, described in a recent announcement, water is cooled "directly and instantaneously" by individual Temprite coolers incorporated in each of the new, wall-type drinking fountains now in production.

The coolers, designed to be operated from a common condensing unit, are said to make unnecessary "the heavily-insulated water circulating lines, pump, and motor, which are costly to install and which represent upkeep and loss of refrigeration."

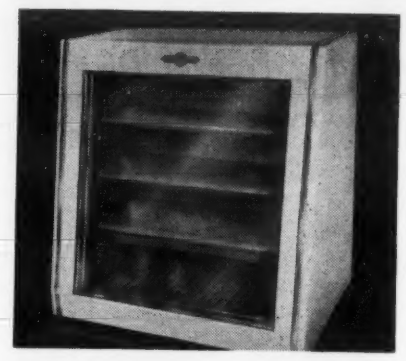
Of white porcelain on cast iron, the fixture is furnished with the cooler, an angle stream drinking jet and mouth guard, and a stream height control valve.

The fixtures are manufactured under a patent license agreement with Temprite Products Corp.

* * *



Tal-Co water cooler fixture.



General Refrigerator Corp.'s 'Mighty Midget.'

* * *

'Mighty Midget' Display Case Has Height of 54 In.

NEW YORK CITY—The "Mighty Midget," an all purpose display case measuring 48 in. in length, 54 in. in height, and 21 in. in width, has been added to the line of commercial refrigeration equipment manufactured by General Refrigerators Corp. here, Cecil S. Volk, publicity director, has announced.

The unit contains 25 cu. ft. of display space and has a 9 sq. ft. window made of double pane air-locked glass. It is refrigerated by two coils connected to a remote condensing unit. The latter is operated by a ¼-hp. motor.

Three inches of compressed fibre glass insulation, or its thermal equivalent, is used, he declared. The case has a baked enamel finish with chrome trim. It weighs approximately 400 lbs. uncrated. Fluorescent lighting fixtures are provided.

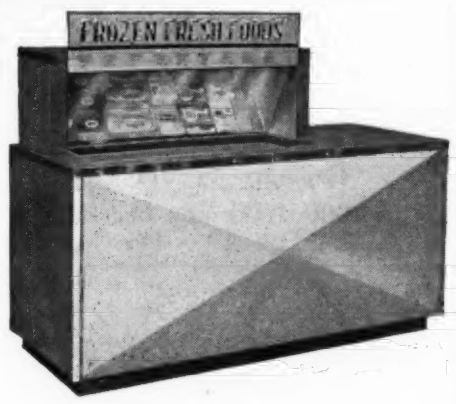
ROGERS QUALITY LINE of Refrigeration

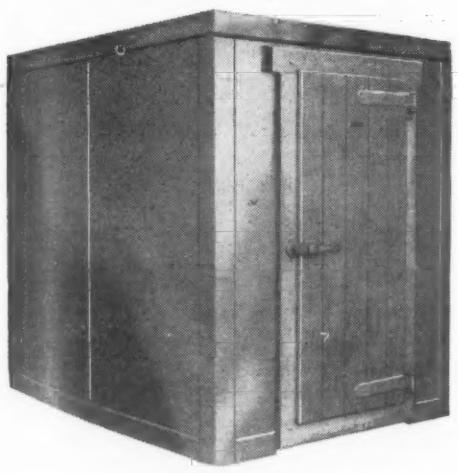
Frozen Foods Salesman

Every store selling Frozen Foods, from small grocery store to giant superstore, wants one —needs one!

Open top display shows the foods, makes self-service easy, rapid, satisfactory.

Heavy duty compressor.



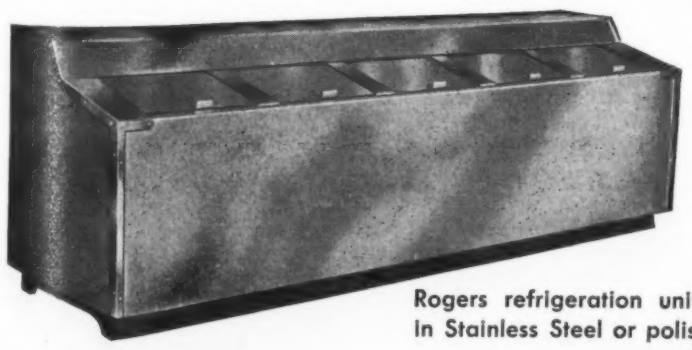


Walk-in Cooler

Dealers can invite their customers to "walk in and get one" because they are ready for immediate delivery.

Shiny and attractive in appearance and easy to keep that way. All metal clad inside and out, built for permanence and service.

Dry Beverage Cooler



Best looking on the market. Rapid cooling, high capacity. Lids slide away or lift out. All compartments can be open at the same time.

Rogers refrigeration units are finished in Stainless Steel or polished Aluminum.

DEALERS WANTED

Write, wire or phone today for information on franchise.

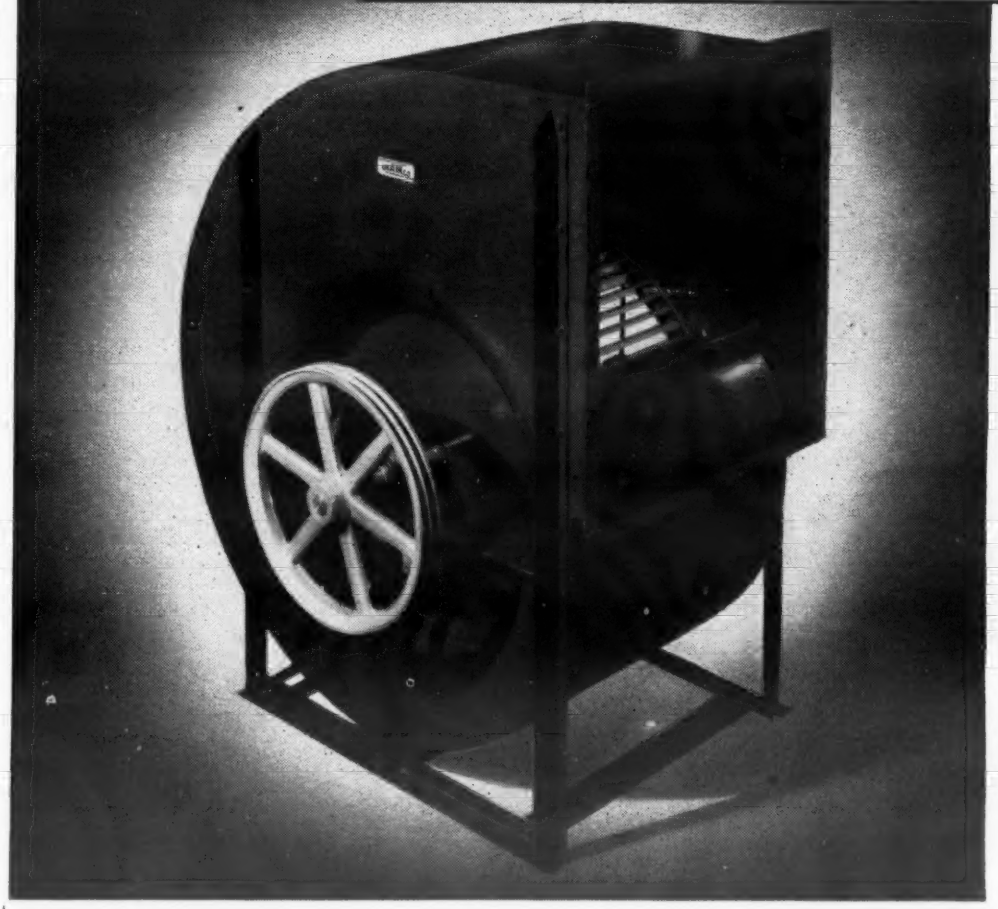
Immediate Delivery!

W. ALLEN ROGERS Industries

BOX 272-AC DEMOPOLIS, ALA.

The Engineer Sees It Through...*at*

U.S. AIRCO



Blowers···built to serve and serve!

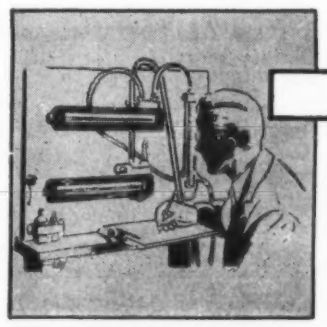
Heavy gauge steel, hydraulic riveting, and feather-sensitive balance all help to make good, long-lasting blowers. But the factor that makes usAIRco blowers *exceptionally* long-lived and trouble-free cannot be seen in the frame, the cone, the blades, the backplate, or the bearings. That factor is *engineering follow-through.*

In specifying usAIRco blowers, you buy much, much more than merely fine machinery. You get shrewd, expert knowledge of air-movement. You have as working partners men who know the job and will help you see it through. Call us in on your next blower installation, and see what this means!

UNITED STATES AIR CONDITIONING CORPORATION

Minneapolis 14, Minnesota

Factory Representatives in Principal Cities



TESTED.....AND PROVED

Before any usAIRco blower goes to the shipping dock it must pass every test established by usAIRco design engineers. You can depend on usAIRco blowers to meet your needs with extra margins of performance.

Plus

Cooperative Engineering Counsel

Available to your air conditioning, heating or ventilating problems is the advice and counsel of the engineering staff of usAIRco. With a background of nearly twenty-five years, it is one of the most experienced in the industry. We invite you to use it freely and fully.

Mary Snow Joins Staff of Whiting Freezer Division

HARVEY, Ill.—Mrs. Mary Snow, a pioneer food consultant in the frozen food and home freezer industry, is joining the Whiting Corp., maker of the Whiting home freezer, Howard Roberts, vice president in charge of Whiting's Refrigeration Division, has announced.

Mary Snow

Mary Snow was formerly associated with Howard Roberts for many years when the latter headed up the sales organization for Deepfreeze.

REWA Obtains Interpretation on Percentages of Tin That Are Authorized for Use In Soldering

CINCINNATI—Refrigeration Equipment Wholesalers Association reports that it has recently obtained the following interpretation on the use of tin in solder under Conservation Order M-43:

Solder containing 40% or less in tin may be used for plumbing and heating. Solder containing 50% or less may be used for refrigeration work and solder type fittings. In the case of the latter, however, the customer is required to certify that:

"The undersigned purchaser certifies, subject to the penalties of Section 35 (A) of the United States Criminal Code, to the seller and to the Civilian Production Administration, that the tin contained in the material covered by this order shall be used for the purpose of installing solder type fittings."

If 95-5 solder is required it is necessary for the person or firm wanting to use it to apply to the office of Temporary Controls, Civilian Production Administration, Tin, Lead & Zinc Branch, Social Security Bldg., Washington, for authorization.

The application must state the number of pounds needed, and the reason that solder with lower tin content cannot be used. If authorization is granted the customer can then file a copy of this authorization with the wholesaler who may fill the order.

Sherer-Gillett's First Open-Type Self-Serve Meat, Dairy Case Has Mirror Magnifying the Display

MARSHALL, Mich. — Sherer-Gillett Co. here announces that its first open-type, self-service display case for meat and dairy products is now available.

Known as Model 2410, the case is being manufactured in a 10-ft. length only at present.

One of the features emphasized is a reflecting mirror which magnifies the display only when the customer is at a distance. When the customer is serving herself, the mirror is out of the line of vision so that attention is centered on the actual display.

Other features noted include porcelain finish "where the wear and tear is heaviest" (balance of exterior is baked-on synthetic white enamel), eutectic plate coils, sliding rear-service doors, and fluorescent lights.

Frame of the case, which is 3 ft. deep and 50 in. high, is of welded steel. The display section includes "Twindow" front glass 10 in. high, porcelain baffles, and three-step adjustable wire shelves. Non-refrigerated storage space is 9 in. high the full length and depth of the unit.

Insulation consists of 3 in. of Fiberglass (4 in. in the bottom of the case).

Three-Level Self-Service Refrigerator Solves Space Problem at Moll's Supermarket In St. Louis

ST. LOUIS—The space problem, so prominent in supermarket operation, has been solved at the Moll's Supermarket at DeBalivere and Delmar here, by the installation of a novel three-level self-service refrigerator.

The refrigerator, a huge self-service unit especially constructed for the market, is 6 ft. high by 10 ft. long, and affords as much display and accommodation facilities as three single units in a much smaller amount of space.

The refrigerated fixture has three scoop-type shelves, which recede from the lowest unit to a point above eye level thus making them easy to get into. A single 1½-hp. compressor keeps the entire box at less than 0° F.

The self-service case is of white porcelain with stainless steel trim, and the top level is used for the storage of butter, lard, and other perishable specials. It will accommodate up to 14 24-pound packages of lard, butter, oleomargarine, etc. The white enameled center section, stainless steel and plate glass trimmed, is used for eggs, and accommodates as many as 172 dozen conveniently.

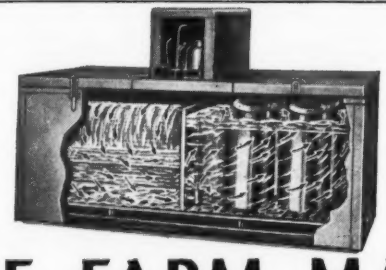
Milk, buttermilk, cheese, and other dairy products are kept in the lower level, where there will be a minimum amount of breakage. About 200 quart bottles of milk is considered the average stock for this shelf.

Moll's has placed the case at the rear of the store, so that every customer coming into the store cannot fail to notice it. This huge case has enabled Moll's to display many more refrigerated items in one single location.

WILSON
SELF-CONTAINED AUTOMATIC HIGH WATER LEVEL ZERO-FLOW

STOPS MILK SPOILAGE

COOLS THE DANGER ZONE FAST



Wilson ZERO-FLOW MODEL ZF8 HX50

Packaged-Unit Milk Cooler
Sizes from 4- to 24-can capacity

TO CAPTURE AND HOLD THE FARM MARKET

Specify Genuine "Refrigeration by Wilson"

• FARM MILK COOLERS • FARM FREEZERS • FARM REACH-IN REFRIGERATORS • FARM WALK-IN REFRIGERATORS

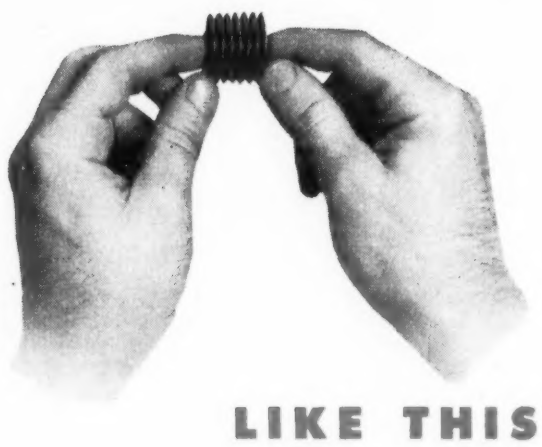
For Franchise Information, Address Dept. 11 WILSON REFRIGERATION, INC., Smyrna, Delaware

When You Speak of PRIME SURFACE

YOU CAN MEAN PLAIN TUBE

LIKE THIS

OR ITS EQUIVALENT SURFACE AREA *in* WOLVERINE TRUFIN



LIKE THIS

In heat transfer work, Wolverine Trufin surface is generally considered all prime surface — not secondary surface. In calculating a given heat transfer problem, unknown factors are eliminated — your calculations need not involve intangibles.

Trufin will deliver a very high rate of BTU's per square foot. Being all-one-piece — the fins extruded from the tube itself — Trufin will withstand vibration and extreme heat changes.

Trufin — THE integral finned tube — will do everything that plain tube will do — and along with that, offers increased surface area. It can be formed and bent as readily as plain tube.

WHO'S WHO AMONG WOLVERINE REPRESENTATIVES

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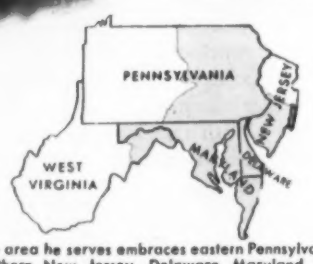

The area he serves embraces eastern Pennsylvania, southern New Jersey, Delaware, Maryland, and eastern West Virginia.

WOLVERINE TUBE DIVISION
CALUMET & HECLA CONSOLIDATED COPPER COMPANY
MANUFACTUBERS OF SEAMLESS COPPER & BRASS TUBING
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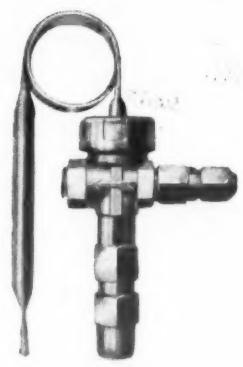
MAYSON

Adjustable Thermostatic Expansion Valves

Model "L"
Capacity ⅓ ton
4000 BTU per hr.



Outlet—¼" pipe tap
Inlet—¼" flared tube
Bulb—⅜" diam.
Capillary—30" long
Adjustment—from 0 to 30° super heat

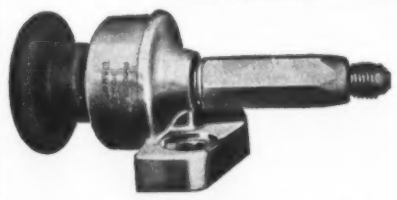
Refrigerant	Code Marking
Freon	LF
Methyl Chloride	LM
Sulphur Dioxide	LS

Model "R"
Capacity 1 ton
12000 BTU per hr.

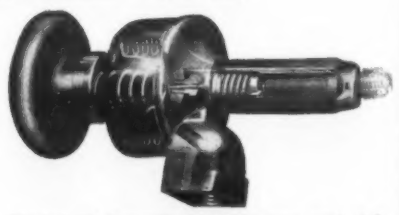
Outlet—⅜" pipe tap
Inlet—Combination flare for either ⅜" or ¼" tubing
Bulb—½" diam.
Capillary—60" long
Adjustment—from 0 to 30° super heat

Refrigerant	Code Marking
Freon	RF
Methyl Chloride	RM
Sulphur Dioxide	RS

Automatic Expansion Valves



Model K—for all refrigerants and S.L. Pressures under 14 lbs. Model KF—for S.L. pressures over 14 lbs. Flange bolt centers 1⅝". 1¾" and 2" centers optional but supplied only when specified.



Model D for all refrigerants and S.L. Pressures under 14 lbs. Model DF—for S.L. Pressures over 14 lbs. ¼" Flared tube inlet—¼" pipe tap outlet. Other connections optional but supplied only when specified.

MAYSON MFG. CO.

Main Office & Factory: 4332 Horatio St., Detroit 10, Mich.
Export Office: 2111 Woodward Ave., Detroit 1, Mich. Cable: FORACO.
Pacific Coast: Van D. Clothier, 1015 E. 16th St., Los Angeles 21, Calif.

Air Conditioning Smooths Production of Combination 'Cough Drop and Lollipop'

Cooling Reduces Product's Stickiness; Dehumidifying Prevents Condensation Inside Cellophane Package

READING, Pa.—Sharp & Shearer, Inc., of Reading, Pa., manufacturer of the novel combination cough-drop-and-lollipop, known as "Kiddie-Kof," has achieved a more uniform product, smoother production, and improved working conditions through a production room air conditioning job which embodies all three factors—cooling, dehumidification, and insulation.

By keeping production room temperature at 70° F. and relative humidity at 40% the hard-candy base of both the Kiddie-Kofs and Sharp's packaged cough drops, does not absorb room moisture and therefore the stickiness and tackiness usually accompanying summer dampness are avoided. This facilitates handling, prevents machines from gumming up, and keeps the summer-time make-up of the pharmaceutical identical with that of the winter product.

Air conditioning is valuable from a packaging standpoint because in using cellophane as an enclosing media room air is sealed within the package. If this air contains moisture, low temperatures encountered after shipment are likely to cause condensation on the inside surface of the wrapper. This moisture causes graining and discoloration although it does not effect the flavor nor the medicinal qualities of the product. When the packaging room is dehumidified, as it is here, the product is assured of a longer shelf life.

Employe Efficiency Higher

High employe efficiency is another factor which is an important by-product of the air conditioning installation.

The rooms insulated and conditioned include a forming room 30 x 50 ft., a packaging room of the same size as the forming room and located directly below it, and a corn syrup storage room measuring 22 x 22 ft.

The forming room contains the continuous machinery for molding both the cough drops and the Kiddie-Kof suckers, and the sucker-head cellophane wrapping unit. Formed cough drops are run along overhead conveyors which are located directly beneath cooling ducts. These ducts—see picture—have lipped slits in the underside through which conditioned air constantly blows down onto the product, thereby cooling it rapidly and eliminating waste time between production and packaging.

Small Duct Cools Suckers

Suckers are tumbled as they are cooled. A fan draws air from one of the above mentioned ducts and discharges it into a smaller duct inside the tumbler. This duct discharges conditioned air onto the suckers, thus cooling them. After tumbling has knocked off sharp edges, suckers are individually wrapped in cellophane and conveyed by chute to the packaging floor below.

Here the suckers are packed in boxes of six, the boxes are wrapped in cellophane, and finally packed in cartons for shipment to wholesale druggists throughout the United States and Canada.

The air conditioning plant itself consists of a Lectrodryer and three Yorkaire units.

The Lectrodryer takes in a mixture of fresh air and recirculation air—at a rate of 3,000 c.f.m.—and removes undesired moisture. This is done by passing the air through beds of activated alumina which takes up moisture by the physical action of submicroscopic pores.

The absorber, in the process of drying, converts the latent heat of the moisture in the air into sensible heat. In addition some 20% more sensible heat results from the release of residual heat left over from the reactivation of previously saturated beds (done by gas heating).

Therefore, the machine is equipped with an aftercooler using cooled water for lowering the temperature of the air before sending it on to the Yorkaire air conditioners. This reduces the load on the refrigerating units.

The cooling water is circulated through a cooling tower and used again—at a rate of 24 gal. per min.

The Lectrodryer is a multiadsorber unit with a rotary valve mechanism which delivers the air to be dried to some of the alumina beds while directing another stream of gas-heated air through spent beds to reactivate them.

After leaving the Lectrodryer, air is delivered to the three Yorkaire units. Each unit is rated at 10 hp. and contains two 5-hp. compressors, a cooling surface, and a 2-hp. discharge fan and motor.

Units Connected In Series

The three units are connected in series and each takes one-third of the Lectrodryer output plus a portion of recirculation air. The cooling element cools the dehumidified air to 70° F. and the fan discharges it into insulated ducts. The insulation is ½ in. of mineral wool in the new board form, secured in place at duct corners by 2 x 2 in. galvanized angles.

This insulation on the cold air ducts between refrigerating units and point of entry to air conditioned spaces, prevents conditioned air from gaining or losing heat in reaching preparation and packaging rooms. In addition sweating is prevented, prolonging the life of the ducts and eliminating a source of maintenance troubles.

Since walls of the production rooms are of thick brick, no wall insulation is required and since the two insulated rooms are one above the other, the floor dividing the two rooms is not insulated. The floor of the packaging room on the second floor and the ceiling of the preparation room on the fourth floor are insulated with granulated mineral wool insulation. Ceiling rafters are walled in with Celotex board and the space filled with graulated mineral wool. The nodules are blown into the voids between flooring and Celotex.

Room insulation limits the change in air temperature and humidity within the preparation and packaging rooms—this means that the air conditioning equipment has only to condition the air recirculated through these rooms, plus a small addition of fresh air (a much lesser load than would be required if all fresh air had to be conditioned).

Sharp & Shearer also use mineral wool in insulating the room in the basement in which syrup is stored. In this case the object is to keep heat in rather than out. The syrup is contained in a 12 x 12 x 6 ft. tank of ¼ in. welded steel construction. Tank holds about 60,000 lbs. of corn syrup, and is maintained at 95° to 100° F.

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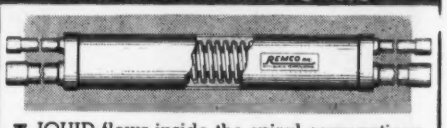

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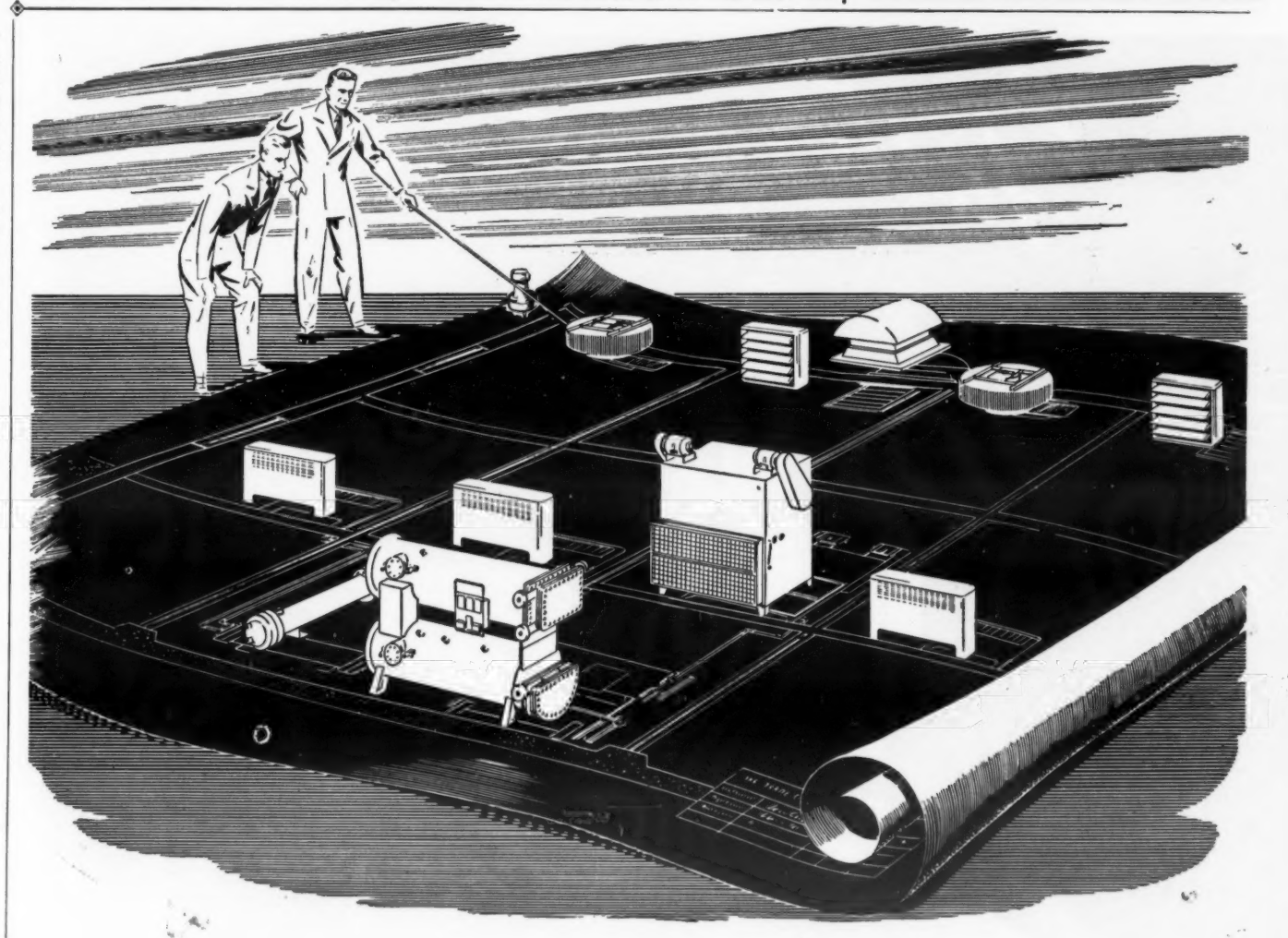

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What Causes Those Solids Which Play Havoc With a System? Dr. Walker Has Suggestions

By C. Dale Mericle

LONG BEACH, Calif.—What can be done about "Solids in a Refrigeration System?"

A detailed analysis of what causes solids and sludges to form in refrigeration systems and suggestions on removing them and preventing their recurrence was presented by Dr. Walter O. Walker, director of research for Ansul Chemical Co., at a state-wide meeting of the California Association, Refrigeration Service Engineers Society here.

"About 90% of all sludges are derived from moisture, and when sufficient moisture gets into a refrigeration system it usually forms sludge. Moisture probably causes more trouble than any other thing," emphasized Dr. Walker.

3 Types of Sludge

Three general types of sludge that are encountered in refrigeration systems were listed by Dr. Walker as follows: (1) soft, sticky powder; (2) large, hard flakes, and (3) hard and dry powder.

And among the various effects of sludge he outlined these:

(1) Blocks oil passages and prevents proper lubrication.

(2) Packs behind piston rings, reducing compressor efficiency.

(3) Causes sluggish compressor valve action.

(4) Carries over to the expansion valve or float valve.

Under certain conditions, methyl chloride will combine with aluminum to form a highly inflammable product. A test tube containing this product was thrown against the Ansul laboratory one night and burst into flames.

(5) Remains in condenser coils and reduces cooling efficiency.

(6) Carries into the evaporator coil with a detrimental insulating effect.

Commenting that the question of how much water has to be present in a refrigerant before serious effects result is often asked, Dr. Walker told the RSES group that:

With sulphur dioxide 0.03% moisture by weight causes a slight discoloration of steel; 0.10% results in a slight scale; and 0.15% causes a heavy scale.

With methyl chloride, 0.02% of moisture by weight will cause slight discoloration of steel; 0.03% results in marked discoloration and a slight scale, while 0.05% will cause moderate to heavy scale.

"Freon-12" has about the same general reaction with water as methyl chloride, he said, pointing out that the reaction is much faster with sulphur dioxide than with either "Freon-12" or methyl chloride.

Cites Danger of Using Methyl with Aluminum

Under his general topic of "Solids in a Refrigeration System," Dr. Walker discussed at some length the danger of employing methyl chloride in a system containing aluminum.

"A serviceman once wrote in to us that when he was opening up a machine flames suddenly shot out of the unit. This set us to experimenting and we learned that methyl chloride can get a peculiar reaction with aluminum if there is a catalytic 'kick' present," he declared.

If conditions permit, methyl chloride and aluminum will form a solid material soluble in the refrigerant which will burst into flames on exposure to air, laboratory studies revealed, according to Dr. Walker.

"We took three cylinders of methyl chloride and added a considerable amount of aluminum and some iodine, the latter to serve as a catalyst," he continued. "We placed these over a furnace in the laboratory to keep them warm, and about 10 o'clock that night one cylinder burst. The explosion moved one wall of the lab over about 2 in. and generally messed things up.

"So be sure that there are no aluminum parts in a system if you change over from 'Freon' to methyl chloride," he cautioned.

"Under ordinary conditions, however, there is no demonstrated danger of an explosion if aluminum is present in a system charged with methyl chloride, but one should remember that this combination is potentially dangerous.

'Throw It In the Ocean'

"A serviceman should also be very careful in servicing a methyl chloride machine if aluminum is present in the system. The best thing to do would be to throw the whole machine in the ocean, the customer being willing, and forget about it," Dr. Walker suggested.

Admitting that this suggestion is not practical, he advised that with such a machine the refrigerant and oil should be carefully removed.

"Don't bleed the refrigerant gas, however," he warned. "Next, pump the liquid into the receiver, break the line, and take the machine out in the open and let the refrigerant escape. It may even start to burn.

"Take off the evaporator and pour out the liquid, letting it react. Be especially careful not to get any of this liquid on your hands and clothes, for it will burn badly," he cautioned.

According to Dr. Walker, aluminum has other reactions in refrigeration systems, including "Freon" and sulphur dioxide machines, these reactions usually being induced by the presence of moisture. There is also a reaction between aluminum and methanol which develops a sludge.

"Regardless of the source of these solid products, they can't be gotten out of the system except by dismantling the machine. Some sludge may be broken loose and washed out with carbon tetrachloride, alcohol, or a similar agent, but this treatment may not clean out the system completely. The remaining parts of sludge may break loose later. And it's difficult to clean some evaporators with their small tubing."

The problem of copper-plating in

(Concluded on next page)

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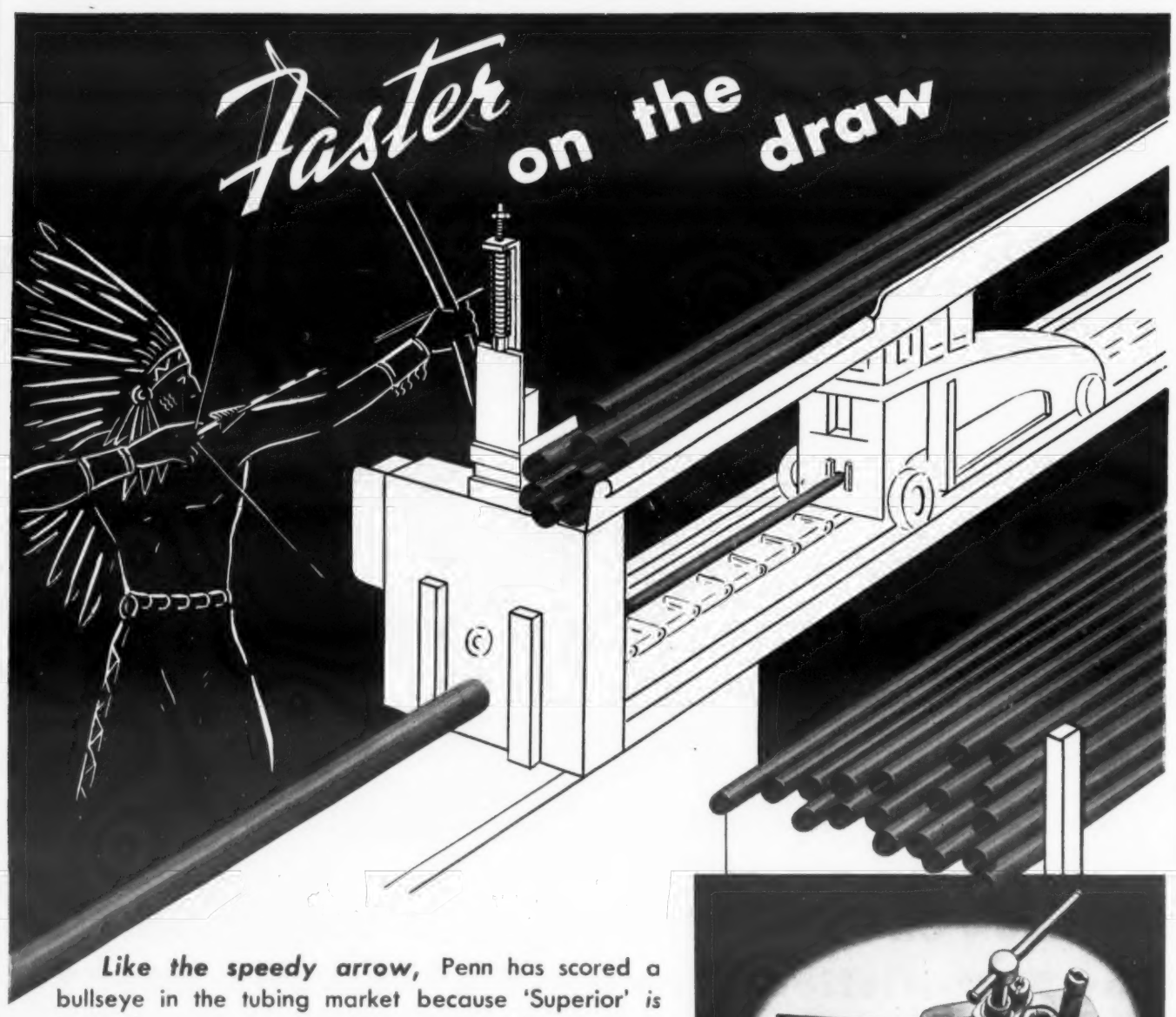

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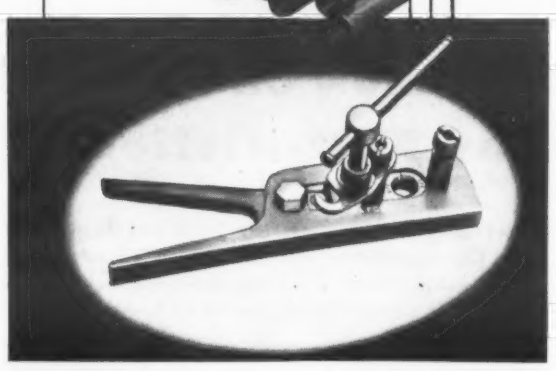

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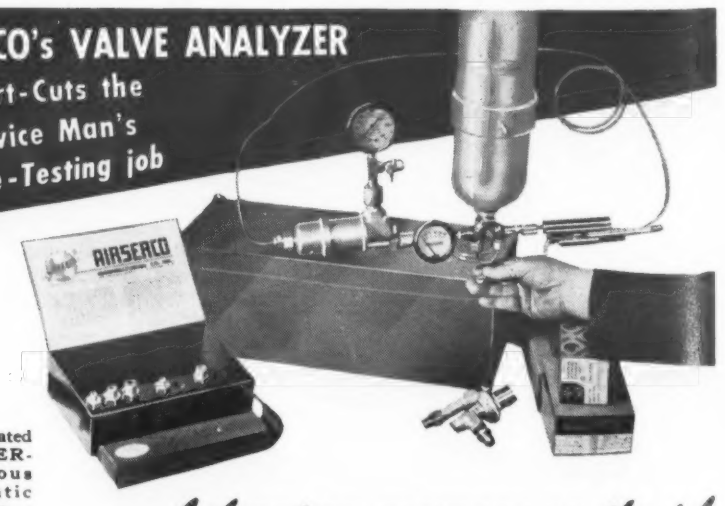

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Low Temperature Jobs Make Old Bug-Bear—Moisture—Even Worse, Dr. Walker Warns

(Concluded from preceding page)

compressors was touched upon by Dr. Walker, who said that this phenomenon used to be a lot more prevalent when the refrigeration oils weren't so good.

"Primarily, the cause of copper-plating seems to go back to the oil, although there are probably other factors, too. Selection of a good oil that has produced little copper-plating in the past is the best way to avoid it," he suggested, adding that "it is not a primary cause of sludge formation."

The use of acrolein in multiple methyl chloride systems to serve as a warning agent (as required in several cities) was also cited by Dr. Walker as another cause of sludge formation. He contends that sulphur dioxide makes a much better warning agent for this type of system.

Effects & Causes of Moisture

Getting back to the chief bug-bear of refrigeration systems—moisture—Dr. Walker listed several effects of moisture:

(1) Freeze-ups at expansion valves, capillary tubes, evaporators.
(2) Corrosion of metals to form sludge.
(3) Copper-plating.
(4) Chemical damage to insulation due to acid products of reaction between refrigerant and water.
(5) Embrittlement of flapper valves, etc., by moisture.

And as to the reasons for moisture being present in a system, he suggests several causes:

(1) Faulty drying of equipment.
(2) Introduction during assembly or service in field.
(3) Low side leaks permit air and moisture to enter.
(4) Water-cooled condenser leaks.
(5) Oxidation of certain hydrocarbons of oil may produce moisture.
(6) Wet oil and/or wet refrigerant.
(7) Decomposition of motor insulation in hermetic units.

Worse In Low Temp Units

Always a problem, moisture may be even more serious in low temperature jobs, such as home freezers, warned Dr. Walker, because the "Freons" and methyl chloride can't hold all the moisture in solution at lower temperatures.

Attempts of servicemen to use methyl alcohol in systems to prevent ice formation was also discussed.

"Using 5% of methyl alcohol with 'Freon' or methyl chloride will prevent ice formation, but a 5% solution will form corrosive products and solid sludge which will give all the troubles that would be caused by moisture," he declared.

"If the percentage of alcohol is kept below 1% by volume, the day of reckoning will be postponed a few months, but everyone seems inclined to put in too much."

Don't Use Methyl Alcohol

Methyl alcohol, in Dr. Walker's opinion, shouldn't be used at all, and if it is employed to start up a machine, it should be removed just as soon as possible.

"The best bet is to have a system as clean as possible."

Just how dry should a refrigeration system be?

That varies somewhat with the type of refrigerant and the temperature at which the system is operated, pointed out Dr. Walker, who said that methyl chloride, "Freon-21," and "Freon-22" can tolerate more moisture than other "Freons," such as 11, 12, 113, and 114. Moisture is more soluble in the first group, and this is especially noticeable at low temperatures.

If there is not too much moisture in a system, one of the better drying agents generally removes the moisture satisfactorily, but the moisture must reach the drying agent, he emphasized. This may require more than one passage. Also, water may concentrate in the coldest part of the system and take a long time before all of it gets to the dryer.

Dryers Can Fool One

Although a dryer containing activated alumina or silica gel will warm up when moisture comes in, these dryers will also heat up when perfectly dry refrigerant is admitted, declared Dr. Walker, who cautioned servicemen "not be fooled by the heating of the dryer into thinking that is definite proof of the presence of moisture in a system."

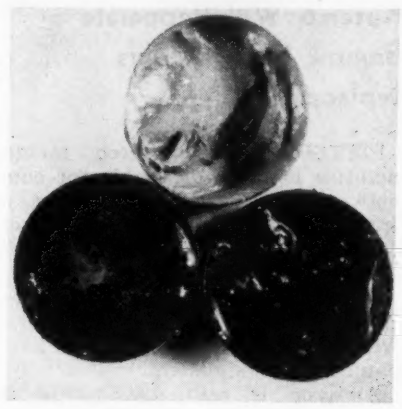
Besides moisture, another cause of sludge formation in a refrigeration system is oil, which also causes waxing problems. Oil, however, is not a major source of sludge, since it accounts for only about 10% of the sludge cases, he said.

Generally, he indicated, sludge from oil is caused by overheating of oil, which makes it break down.

"Whenever oil gets above 140° F., you're inviting trouble. And at 225° F. over a period of time you're bound to have trouble, for any oil will break down. And it's important to remember that 10 minutes at 250° F. is worse on oil than, say, five hours at 180°."

One problem that is definitely traced to oil is the formation of wax, which is most likely to occur in low temperature systems, he indicated.

"When oil and refrigerant are mixed and the temperature reduced, we can get the same type of trouble at expansion valves as caused by moisture in the system," he declared.



Samples of solid sludge taken from refrigeration systems. Oil is mixed with the two samples caused by moisture, while at top is calcium oxide sludge which escaped from a dryer.

"The advent of low temperature machines has created a new type of service trouble—wax formation," he told the servicemen.

Often the wax will form at the expansion valve and prevent its normal operation, but under certain conditions the wax will pass the expansion valve and form in the coil, restricting refrigerant flow and heat transfer there.

It requires little heat to unfreeze a "wax-frozen" expansion valve, and this property has sometimes perplexed servicemen in diagnosing a complaint. The wax may melt by the time an expansion valve has been removed for inspection, he said.

He suggests that if a wax-frozen valve is suspected as the cause of trouble, it should be removed from the system just as quickly as possible for inspection. Presence of wax can also be detected by carefully removing the valve, washing it carefully with carbon tetrachloride, and then letting the carbon tet evaporate. If wax was present it should remain either in the form of a white or tan colored wax melting a little above room temperature.

The best means of preventing wax formations is to use an oil that doesn't separate wax or to employ an oil trap or oil separator to prevent circulation of oil through the system," said Dr. Walker.

New Service Problem

At low temperatures wax can form out of the oil in the system and clog up expansion valves and evaporators, points out Dr. Walker. The samples shown above were taken from a mixture of oil and methyl chloride at -50° F.

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Mr. Williams further announced that a new catalog has been prepared listing the various Grunow parts available for shipment.

Airserco is also distributing its new 8-page catalog, A-47, complete with price lists, to refrigeration wholesalers and servicemen, he said.

All Grunow products assembled by Airserco are individually packaged and shipped under the Airserco label, according to Mr. Williams.

Servicing Truck Refrigeration Units

Editor's Note: Many refrigerated trucks employ eutectic or "hold-over" plates, as they are commonly called. These may be connected to condensing units permanently installed on the truck or remotely installed in the plant. Servicing of these systems is similar to stationary installations, but there are several special problems that come up on truck jobs. This service data is presented with the cooperation of Kold-Hold Mfg. Co. of Lansing, Mich., manufacturer of truck plates.

Instalment No. 38

* * *

Complaint

2. *No Refrigeration.* Condensing unit operating.

Causes (Cont.)

D. *Expansion valve screen plugged with dirt or scale.* If these strainers or others in the liquid line become so clogged with dirt that liquid refrigerant cannot pass through the coils, the truck plates will be starved. Remove the strainers, clean, and replace.

E. *Suction line strainer plugged.* Some condensing units have a strainer in the suction line of the compressor. If plugged, this strainer should be cleaned.

F. *Leaky expansion valve.* A small particle of dirt or scale may become lodged at the needle seat of the expansion valve, keeping the needle from seating tightly. Close the liquid receiver valve and pump back most of the refrigerant charge into the liquid receiver. Then open the liquid valve quickly. This will often flush the dirt off the valve seat. If the valve continues to leak, it should be replaced.

G. *Expansion valve open too much.* This results in liquid refrigerant filling the heat exchanger and frosting the line back to the compressor. Reduce the valve opening by turning in the adjusting screw.

H. *Expansion valve closed too much.* This causes starving of the last truck plate in the series so that it will not frost entirely or possibly not at all. The suction pressure gauge will show a very low pressure. Turn the adjusting screw of the valve out to increase the valve opening.

I. *Plugged dryer.* Most dryers have strainers consisting of screen and felt pads. If plugged, no liquid refrigerant will pass through to the expansion valve. To check loosen the flare nut slightly on the side entering the expansion valve. If no liquid is blown out, the dryer is plugged and should be replaced with a new one.

J. *Suction line tubing pinched at flare nuts.* The suction pressure on the low-pressure gauge will show a vacuum with the condensing unit in operation. A slight loosening of the flare nut on the outlet of the expansion valve will show a cold liquid and gas. This indicates a restriction in the suction line of the system.

Check for pinched tubing at each flare nut past the expansion valve. Tubing may have been pinched during installation, or by frost formation in the flare nuts if the latter are not of the frost-proof type, or by careless handling or shifting of the load on the truck.

K. *Defective compressor.* Check compressor for leaky piston rings, leaky suction and discharge valves, and leaky shaft seals. If defective, these parts should be replaced. Be sure that the compressor is thoroughly dried out after it is reassembled so that moisture will not be introduced into the system.

Complaint

3. *Poor Refrigeration.* Condensing unit operates continuously.

Causes

A. *System short of refrigerant.* This condition is usually indicated by a sharp hissing at the expansion valve. High pressure gas instead of liquid is passing through the valve. A hot liquid receiver or liquid line is always a symptom. Shortage of gas indicates a leak, which should be found and corrected before additional refrigerant is added to the system.

B. *Excessive head pressure.* This condition usually results from the presence of air in the system. There is probably a leak which should be found and repaired. Then purge off the air and replace refrigerant lost during purging. Dirty or plugged condenser coils can cause excessive head pressure. The fins of the coil should be cleaned. The serviceman also should make sure there is adequate air circulation around the condenser coil.

C. *Compressor is defective or inefficient.* Check as outlined in Paragraph K under Complaint No. 2.

D. *Expansion valve trouble.* Check as outlined in Paragraphs B, C, D, F, G, and H under Complaint No. 2.

E. *Condensing unit too small for job.* Check its size against the recommendations of the plate manufacturer. Check speed of the condensing unit to see if the speed corresponds to the manufacturer's designated rating.

Check the insulation of the truck body for water-logging. Water-soaked insulation will not maintain required temperature, especially on low-temperature applications. Door gaskets may be faulty or frozen, preventing proper sealing.

Has the load of the truck been increased? Inquire as to whether the truck is connected to the condensing unit immediately upon returning to the plant. Is the system operated long enough to freeze the eutectic solution in the truck plates?

(To Be Continued)

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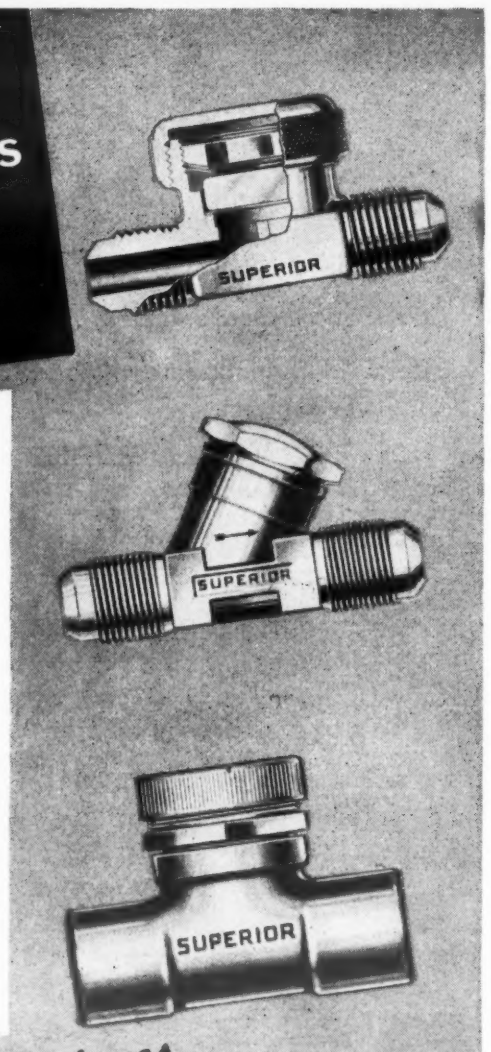

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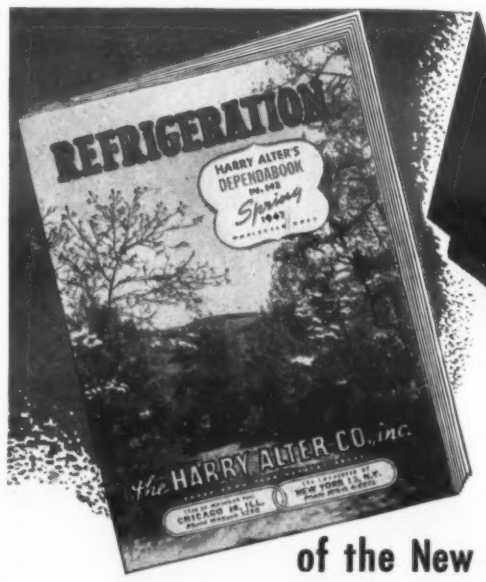

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Refrigeration Problems

And Their Solution

By P. B. Reed

For Service and Installation Engineers

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

The Refrigerated Railway Car (4)

For many years the railroads have been transporting frozen meats and frozen sea foods. The meats were usually in whole or half carcasses and the fish, shrimp, and other sea foods in large chunks or barrels.

The products are already frozen before they are put in the refrigerator car and the car itself has been pre-cooled for several hours to cool down the inner walls, floor, ceiling, racks, and other interior of the car.

PRECAUTIONS IN LOADING FROZEN FOODS

Pre-cooling is usually done by icing the bunkers with 30% salt and ice, and after the car is loaded with frozen foods, the bunkers are re-iced with the 30% salt and ice.

Only one pair of side doors are used for loading and a split canvas curtain is hung over that door to minimize the entrance of warm air while loading.

The car should be loaded as quickly as possible and the frozen food should spend as little time as possible on the loading platform between the frozen storage room and the car.

If the frozen food were put in the refrigerator car at 0° F. or below and the car iced with 30% salt and ice, the load should be delivered, even on trans-continental hauls, at from 15° to 20° F. This was reasonably satisfactory for this bulk type of frozen foods.

PACKAGED FROZEN FOODS DIFFERENT

During the past 10 or 15 years the public has been made frozen foods conscious, but in their minds, "frozen foods" means *packaged* frozen foods —peas, spinach, carrots, strawberries, peaches, chicken-a-la-king, pies ready-to-bake and whole pre-cooked frozen meals, each put up in small packages and already cleaned and prepared ready to use.

This phase of the frozen food business has been growing by leaps and bounds during the past few years and, from all indications is destined to eventually represent a very sizable portion of the total perishable food business.

CONSTANT 0° OR BELOW NECESSARY

For these frozen foods it has been definitely established by the best authorities on the subject, that in order to put the finest quality frozen food in the hands of the ultimate user requires, among other things, two conditions of particular interest to the transportation of the frozen food.

After freezing at 0° F. or below (1) They must be kept at 0° F. or below. (2) The temperature must not be allowed to fluctuate.

The frozen food processors, the cold storage warehouses, locker plants, and even the wholesale food distributors and the dealers are provided with 0° rooms or cabinets mechanically refrigerated and thermostatically controlled to maintain temperatures that vary but little.

Weakest link in the chain from processor to the consumer is the transportation of the frozen foods. Frozen vegetables and fruits constitute the bulk of packaged frozen foods, and are grown and processed on the West Coast but most of them

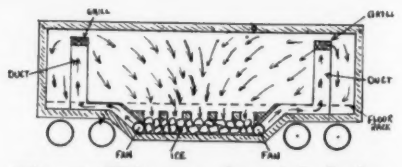

Fig. 3—This experimental design places the ice bunker beneath the floor level, aimed at easier icing, greater loads.

are used within a radius of about 300 miles of New York City. So the matter of the transportation of frozen foods, especially their long distance transportation is a serious matter.

The frozen food is at 0° F. or lower when it is put in the railroad car in California, Oregon, or Washington. It takes about 10 days for it to get to New York City and during that trip it will be re-iced with 30% salt and ice 10 or 12 times.

If the car is the ordinary railway refrigerator car previously described, the frozen food will be at from 15° to 20° when it arrives in New York and there has been considerable fluctuation of temperatures enroute, especially while the icing doors are open during re-icing.

IMPROVEMENTS MUST BE MADE

These high temperatures and wide fluctuation of temperatures of the frozen food enroute has resulted in some rather heavy claims against the railroads for loss of quality and saleability value of the frozen foods.

Some improvement could be made by better organization of facilities and methods of loading, unloading, and re-icing the cars, but basically the standard refrigerator car, refrigerated with ice and salt is inadequate for the job of transporting packaged frozen foods and maintaining constant temperatures of 0° F. or below.

The railroads can hardly be blamed too severely for this lack of proper facilities. Aside from the fact that they are at present hampered by shortages of materials and skilled workmen, there is not too great an income urge to prod them into unnecessary expenditures for revolutionary improvements.

Something like 10,000 carloads of frozen foods were loaded and transported by the railroads last year, and this was but a *fraction of 1%* of the total handled by refrigerator cars.

Moreover the railroads themselves own roughly only about 20% of the refrigerator cars in existence today, although they indirectly control companies that own about 60% of all refrigerator cars.

Remaining 20% are owned privately.

RAILROADS STUDYING THE PROBLEM

Nevertheless the railroads are interested in providing refrigerator cars to shippers of frozen foods. They are not sure of just what type of equipment they should build.

About three years ago they made an attack on the problem with the result that a committee, sponsored by the American Association of Railroads has recommended changes in the construction of refrigerator cars to be built in the future.

These "super refrigerator cars" are to be approximately the same size as the former cars; they are to retain ice or salt and ice as the cooling medium, and the end bunker type construction. However, they will have passenger type trucks to provide better riding quality to assure less damage to delicate fruits and vegetables. They are to use aluminum and stainless steel inside and out, replacing wood as far as possible. The bunkers are to be collapsible. But, of greatest importance, they are to be much more heavily insulated and are to be equipped with fans belted or gear driven from the car wheels or axles. Also they are to have two dial-type thermometers mounted externally so that the train crews or inspectors can keep posted on the conditions inside the car.

A DIFFERENT TYPE

Fig. 3 illustrates a design of refrigerator car that has the ice bunker underneath the floor of the car just above ground level. Blower fan, belted from the axles circulate air over the ice and up through ducts to each end of the car. Since the ice bunker is outside the car body, more space is available for lading.

It was felt, too that the low level of the ice bunker would make for easier icing. However, it was found that the railroads object to this very feature in that it does not lend itself to existing icing stations which are for overhead icing.

Other features are provided such as the very liberal use of aluminum to reduce weight, and easy-riding passenger type trucks.

Ammonia System Holds New Reefer Near 0°

WASHINGTON, D. C.—A new refrigerated railway car whose interior temperatures can be held near 0° F. by an ammonia expansion refrigerating system has been tested and approved by the U. S. Department of Agriculture, it has been announced.

The new car has been hailed as a step toward breaking the rail transportation bottleneck which has long plagued the frozen foods industry.

The Agriculture Department tested the experimental car at the request of the Frigid Transport Co., Inc., maker of the ammonia refrigerating system, and the Birds-Eye-Snider division of General Food Corp., frozen food packers.

For the test, the car was loaded with 47,000 lbs. of frozen tangerine segments and moved from Jersey City, N. J. to Alexandria, Va. where it was run into a "test house." Use of the test house was offered by the Fruit Growers Express Co.

The car was kept in the test house for 10 days and exposed to outside temperatures of 92° F.

During this period, Department of Agriculture records show, the average temperature of the tangerine segments at the top of the car ranged from -4° F. to 1° F. Near the bottom of the load, the temperatures ranged from -3° F. to 3° F.

Agriculture Department officials who conducted the experiment commented that "improved wall and floor racks, allowing freer air circulation, could narrow the spread between top and bottom temperatures."

In the refrigerating system used in the experiment, liquid anhydrous ammonia flows from receiver tanks suspended beneath the car through surge tanks. Here it expands under pressure into cooling coils suspended from the car ceiling. From the coils, it flows to water filled tanks, also slung beneath the car, where it is absorbed. Later, part of the ammonia can be reclaimed, the Department reported.

The ammonia consumption rate during the test period averaged 42 lbs. per hour. During the test, a single charge of anhydrous ammonia lasted 46 hours, it added.

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Tops in PERFORMANCE ECONOMY and EFFICIENCY
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The New Kold-Hold "Quick-Action" Serpentine Plates offer outstanding economies and efficiency. Specifically, these plates either used separately, in banks, in plate stands, or as complete cabinet liners, assure you the following advantages:
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The Dover Compressor and Machine Company announce a new national sales policy.

Due to the tremendous demand for Dover compressors, it has become apparent that 'On the spot' representation will better serve our present customers, and those we would like to have as customers.

Our production facilities have been increased, and we are in a position to make immediate deliveries of Dover compressors. Further—we will soon be in production on a line of complete condensing units.

We invite inquiry from representative Supply Jobbers and Distributors who may be interested in a profitable, and exclusive franchise for the Dover line.

For Domestic sales franchise—address your inquiry to
Mr. C. A. Drewes, President.
Dover Compressor and Machine Company
58 West Blackwell St., Dover, New Jersey.

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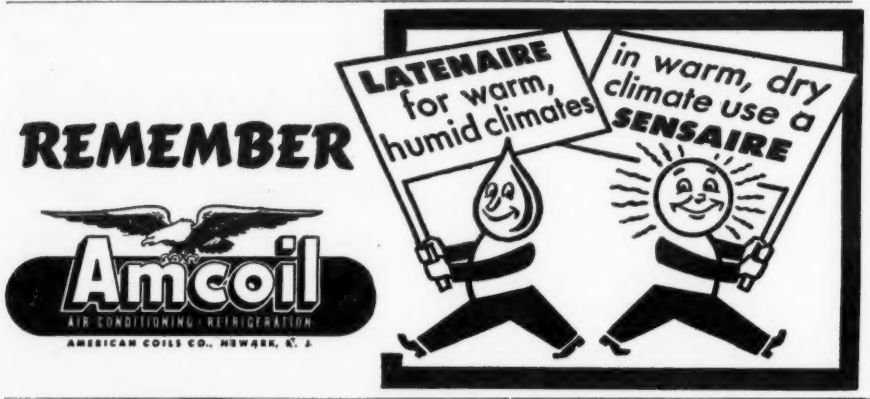


Trion Air Filter--

(Continued from Page 1)

Currently, the Trion Electric Air Filter is being manufactured in Model 100 (up to seven-room home) and Model 200 (up to 11-room home). Each model is enclosed in a metal cabinet. Air entering the filter first passes through a high voltage ionizing screen made up of six fine wires suspended between aluminum tubes. Here the dust particles are electrically charged, so that when they next are routed through the collecting chamber, they adhere to any of the 59 parallel aluminum plates in the chamber.

Source of high voltage direct current for the ionizing screen and collecting chamber is a power pack with transformers and rectifier tubes located at the top of the unit. Provision is made for the periodic cleaning of the plates in the collecting chamber by means of an electrically operated jet spray system which flushes out dirt. Frequency of cleaning will depend, of course, on the intensity of foreign matter in the air passing through the filter, the manufacturer pointed out.

Controls consist simply of a power switch and water wash switch valve on a side panel. For safety and convenience these are both mechanically and electrically interlocked. According to the company, operation of either model of electric air filter costs no more than a 40 watt lamp.

Trion is reported to be developing a third model for installation in a window opening to furnish filtered air for a room or office.

Prior to its reorganization early in 1947, Trion was known as the Pittsburgh Stove & Range Co., a firm with a background of more than 100 years in the manufacture of coal and wood-burning kitchen ranges, Mr. Aitkenhead disclosed.

During World War II Pittsburgh Stove engaged in the fabrication of aluminum under war contracts. When hostilities ended and war contracts terminated, the firm's management decided to switch production to some item that could make optimum use of this aluminum fabricating experience. Ultimately, it was decided that the manufacture of electric air filters furnished the needed outlet.

Earlier this year the company reorganized, changed its name to Trion, Inc., and mustered a staff of new personnel to manage the general office and manufacturing plant located at 1000 Island Ave. Facilities were made available for the fabrication of all types of sheet metal as the production of necessary dies, tools, and machined parts. In addition, research, development, and testing laboratories are being maintained.

As president of Trion, Inc., Mr. Aitkenhead continues an association that began in 1932. Head of the firm for the past six years, he was formerly general manager, directing range manufacture and marketing activities.

Assisting him in the administration of the new firm are:

Edgar W. Meyers, Jr., vice president and secretary. He has served 14 years at Rockwell Mfg. Co. where he held posts of director and controller of the parent company and vice president of Rockwell subsidiaries.

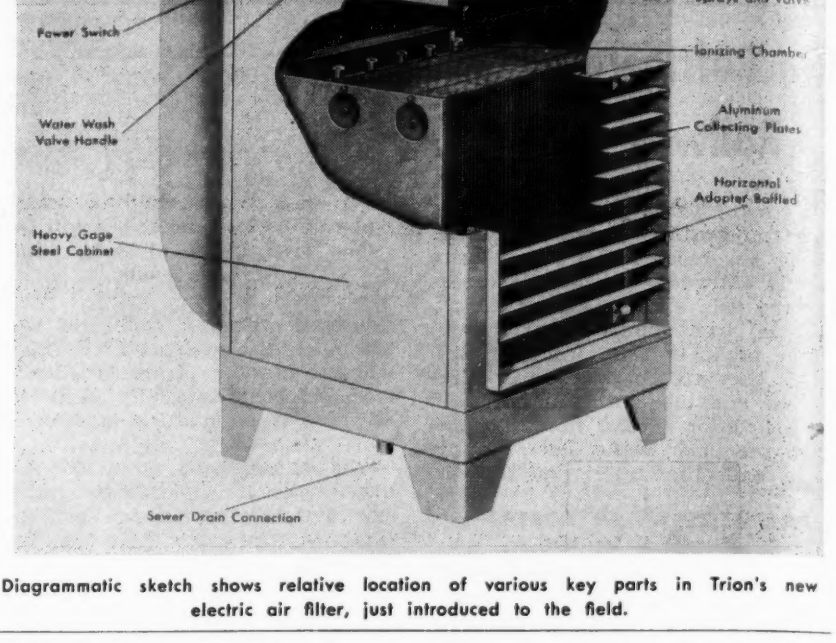
George F. Landgraf, vice president in charge of engineering. He resigned from Koppers Co. to accept the Trion appointment. At Koppers he had been precipitator engineer of the Shops division for six years. Mr. Landgraf also had held posts at the Lebanon Steel Foundry, Pittsburgh Screw & Bolt Co., and the Flannery Bolt Co.

Norbert F. Eichelsbacher. treasurer. He has been with Trion and its antecedent since 1939.

John W. Frazier, sales manager. He formerly supervised sales promotion and dealer relations of the Equitable Gas Co. for 13 years prior to his acceptance of the Trion appointment in May, 1947. Before that he had been employed at the Calorizing Co. as an engineer.

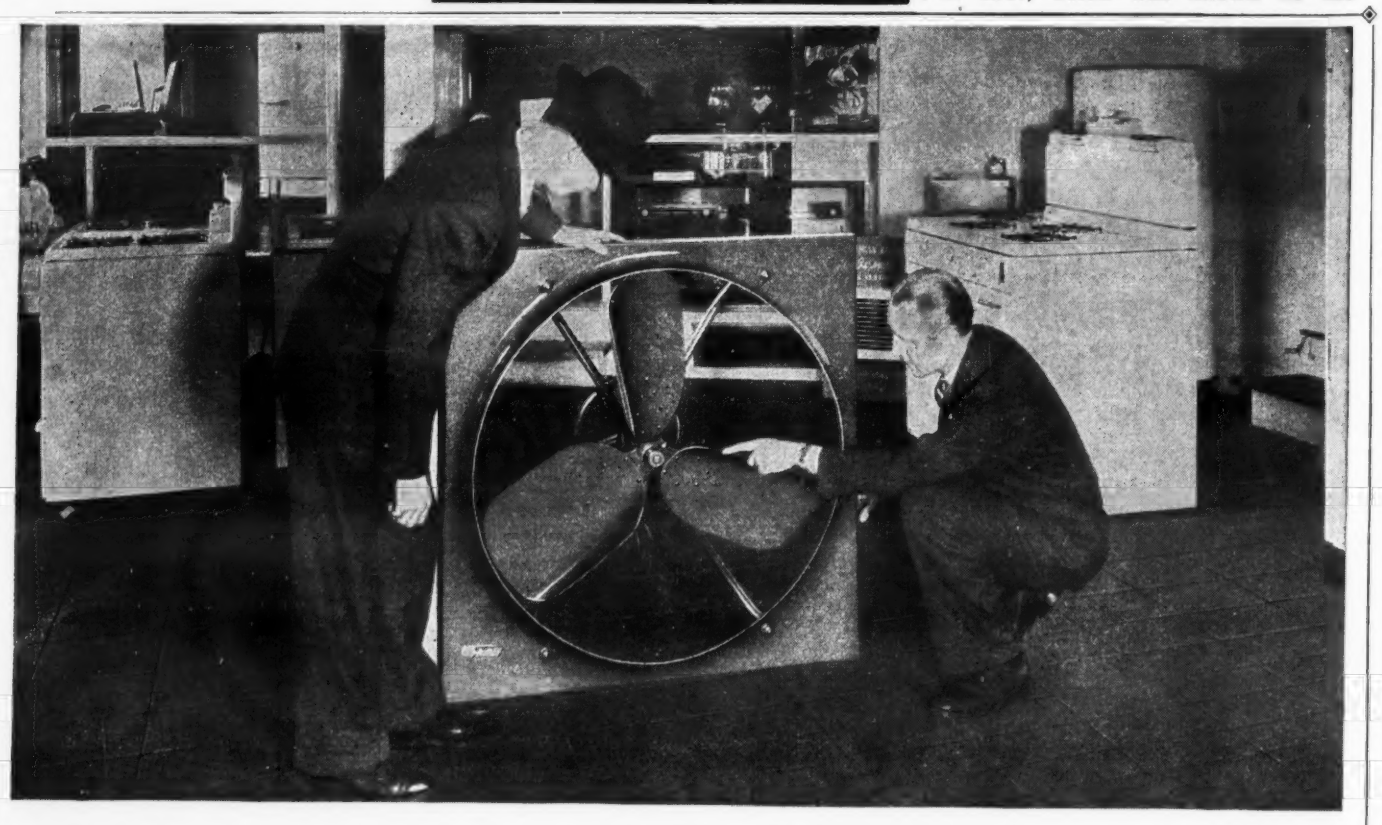
Also announced at the Trion reception were the appointment of several dealers to handle the electric air filter throughout the Tri-State area.

Former Stove Firm Now Makes This Electric Air Filter



Diagrammatic sketch shows relative location of various key parts in Trion's new electric air filter, just introduced to the field.

After removing front panel, model points to the power pack where apparatus is located to convert household current to high voltage necessary for ionization of dust particles in passing air.



Highly Successful Louisville Contractor Gives You the "Low Down" on His Sales Success with LAU "Niteair" Fans

Karl J. Daubert, President of the Daubert Electric Company, gives five meaty reasons to which he attributes his outstanding sales and profits success on LAU "Niteair" Exhaust (or Attic) Fans:

1. **STOCK ON HAND.** A large and complete stock for immediate delivery.
2. **TRAINED CARPENTER CREWS.** Trained and experienced carpenter crews operating from trailers equipped with all necessary materials to do a complete installation job (except electrical work).
3. **ELECTRICAL CREWS.** Specialized electrical crews to follow up the installation men and complete the electrical phase of the installation.
4. **ABILITY TO ANALYZE JOBS.** The experience and ability to quickly analyze tough situations in order to give the customer an exact idea of what is to be done and what it will cost.
5. **REFERENCES.** A complete users list so that wherever you are in the city you can point to one of your installations in the immediate neighborhood.

• Fans available for immediate shipment. Jobbers located in every principal city in the country. Find out more about the profit opportunities for you in this readily salable, comfort producing, customer satisfying product.

Write for full information, specifications, prices.

Check THESE LAU FAN FEATURES

All parts — blades, pillow-blocks, pulleys (everything except belt and motor)—are LAU precision manufactured on latest type machines in the modern, greatly expanded LAU factory.

Mass produced for both precision and low cost.

Fan is three-blade type with broad, deep-pitched blades providing greatest suction and air movement, producing maximum air volume with reduced power consumption and air turbulence.

Venturi-type entrance housing "streamlines" air flow. Eliminates most common cause of "air noise."

LAU Self-Aligning Pillow Blocks with Durex Porous Metal Bearings hold fan shaft rigidly, avoiding vibration.

Entire assembly statically balanced.

Five sizes — with discharge capacity for practically every requirement.

Light weight. Reduced shipping charges.

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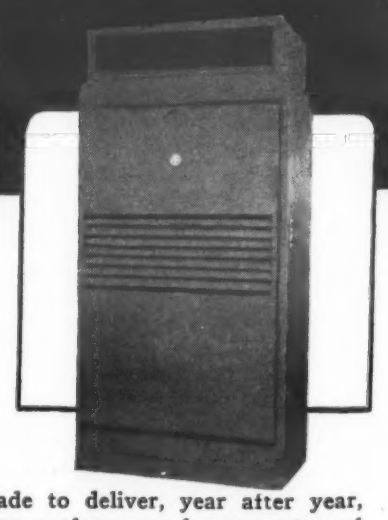

The oversized 3, 5 and 7-ton TYPHOON units are the result of over 30 years experience in building air conditioning equipment capable of delivering full capacity under most trying conditions.

Every TYPHOON unit is made to deliver, year after year, 12,000 BTU's of air conditioning performance for every ton of rating. The big cooling coil, the oversized condenser and other oversized parts are your assurance of customer satisfaction with a minimum of servicing.

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Remington Room Conditioner Uses 2-Stage Ventilation, Variable Velocity, By-Pass

CORTLAND, N. Y. — Designed chiefly for use in tropical climates, the new Model 10 self-contained room conditioner developed by Remington Corp. here features by-pass control, two-stage ventilation, and variable velocity air delivery.

Marking the company's tenth anniversary in the package air conditioning field, the new unit is believed to be the first to incorporate the Auditorium by-pass patents which were dedicated to the public last year, according to Herbert L. Laube, Remington president.

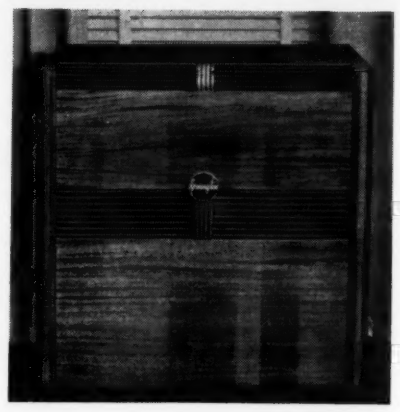
Called the "Climate Compensator" by Remington, the by-pass feature is claimed to provide better control, especially in tropical and sub-tropical areas characterized by hot, humid weather conditions.

Two-stage fan arrangement of the unit results in positive ventilation, the company says. In addition to the conventional centrifugal evaporator fan operating at low static pressure there is another high-pressure centrifugal fan handling ventilating air only, which sends air to the low pressure fan. Both fans are driven off a ¼-hp. motor, and build up a static pressure difference of ¾ in. water between indoors and outdoors, it is claimed.

A separate 1 hp. motor drives the multi-cylinder "Freon-12" air-cooled condensing unit. Condensate from the evaporator coil is re-evaporated on the condenser coil to increase cooling capacity of the unit, which is rated by the company as up to 11,000 B.t.u. per hour.

"Variable velocity" air outlets have been incorporated in the unit to permit users to vary the discharge velocity and direction of air from the unit over a range of from 240 to 950 f.p.m. Thus, points out the company, the tropical resident who often prefers a noticeable air motion can set the grilles at high discharge while the temperate zone user can minimize drafts by using the low velocity setting.

Comfortable indoor conditions despite varying outdoor weather are made possible by the by-pass design, according to Remington, which permits changing the ratio of latent to sensible heat.



Remington Corp. "Climate Compensator"

Part of the recirculated return air can be by-passed around the cooling coil, which will reduce the surface temperature of the cooling coil and increase the latent-to-sensible-heat ratio. This helps counteract clammy indoor conditions, Remington states. The by-pass is manually adjusted by moving a knob.

Overall air supply to the room is not changed by the by-pass arrangement. Up to 400 c.f.m. of conditioned air can be supplied by the unit, with the adjustable ventilating air ranging up to 75 c.f.m.

The three-point master "Comfort Control" on the unit may be operated by hand, although a thermostat is optional equipment. In "first" position the unit is off; in "second," circulation, ventilation, and filtering are provided; in "third," cooling and dehumidification are added.

Filter in the unit has a face area of 240 sq. in.

Chassis construction with removable mahogany cabinet permits the unit to be built into any decorative scheme, and it can be fitted with casters to give mobility, the company claims.

Units for 50 or 60 cycle a.c. or 115 or 230 volt d.c. are regularly available.

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COOLING TOWERS

WITH

FLOATING FILM

The ROGERS exclusive cooling principle that saves up to 98% of cooling water consumption.

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No spray nozzles to clog, no baffles to replace.

CAPACITY RANGE 30 TO 175 TONS

(200 to 520 tons available for prompt delivery)

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Exclusive manufacturers of the ROGERS Y-Glycol System of Chemical Dehumidification.

Installation Rate for Radiant Systems Reaches High of 1,000 Monthly

PITTSBURGH—A monthly installation rate of approximately 1,000 units has been reached for radiant heating systems, according to a survey conducted by A. M. Byers & Co., manufacturer of wrought iron pipes, used in many of these new type installations.

Radiant heating plants are now said to number 10,000 in contrast to the four installations reported in operation 10 years ago. Byers reports that radiant heating is being used today in nearly all types of structures.

A tabulation of the results of one phase of the company's survey shows the following breakdown of the applications of 1,000 radiant heating plants.

Percent	Use
47	Houses and Apt. Bldgs. ranging from $5,000 to $100,000
28	Commercial establishments
16	Industrial structures
8	Institutions
1	Miscellaneous

Electronic Controls Regulate Conditions for Houston Store

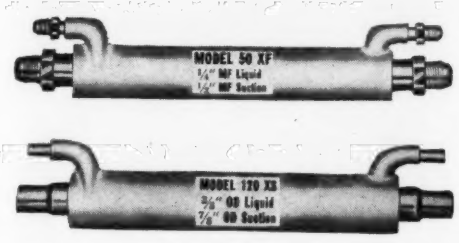
HOUSTON, Tex. — Electronic devices for automatically controlling the temperature and humidity developed during the war years will be installed in the new Foley Brothers Store here, reports Robert L. Mallory, industrial manager for the Brown Instrument Division of the Minneapolis-Honeywell Regulator Co.

The electronic devices not only provide for employe and shopper comfort, but protect merchandise which must be kept at a constant temperature level if the original high quality of the saleable goods is to be maintained, Mr. Mallory indicates.

HEAT-X

H.X.C

CAST ALUMINUM HEAT EXCHANGERS



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— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.

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DOUBLE-TUBE COUNTER-FLOW CLEANABLE WATER-COOLED CONDENSERS

This is the Business End of . . .

HALSTEAD & MITCHELL

Cleanable CONDENSERS

Service Engineers and commercial users throughout the refrigeration industry are now specifying HM Condensers for replacement and conversion orders. These new HM units combine two features never before obtainable in tube-within-a-tube water-cooled condensers; (1) They're CLEANABLE . . . the water tubes are easily accessible at both ends for the spiral cleaning tool to restore the interior water surfaces to "new-unit" efficiency. (2) A TRUE-COUNTER-FLOW relationship is achieved between the coolant and the refrigerant through a unique seamless copper tube-within-a-tube construction that makes obsolete most types of similar water-cooled condensers. Thus, water and space requirements are reduced substantially and a most economical operation is obtained.

JOBBERS in all principal cities carry HM condensers in stock for immediate delivery.

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Filtrine HIGH EFFICIENCY
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FOR ALL APPLICATIONS • LONGER LIFE BETTER PERFORMANCE
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WATER COOLERS
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BROOKLYN 5, N. Y.
Manufacturers of Coolers & Filters for over 40 Years
FASHIONED FOR FUNCTIONING
Even the handsome, engineered *good looks* of Larkin refrigeration products contribute to their fine performance. The originator of the Cross Fin Coil also offers you matchless quality In Air Conditioning Units—Evaporative Condensers—Instantaneous Water Coolers—Humi-Temp Forced Convection Units—Bare Tube and Zinc Fused Steel Plate Coils—and complete equipment for commercial and industrial refrigeration.
THE WATCH DOG OF THE NATION'S FOOD SUPPLY
LARKIN COILS 519 MEMORIAL DRIVE • S•E• ATLANTA • GEORGIA

Hotel Air System To Use Pool for Cooling Tower

SAN DIEGO, Calif. — A $13,500 complete air conditioning system will be installed in Imig Manor hotel by Pacific Refrigeration Co., according to Larry H. Imig, who signed a contract with Robert L. Parker, representing the local refrigeration and air conditioning contracting firm.

"As far as we know, this will be the first complete system installed in any building in San Diego county," Mr. Parker said.

It will be a Worthington air conditioning unit installed in the basement to afford heating, cooling, humidifying, dehumidifying, and filtering of the air in the two main floor dining rooms.

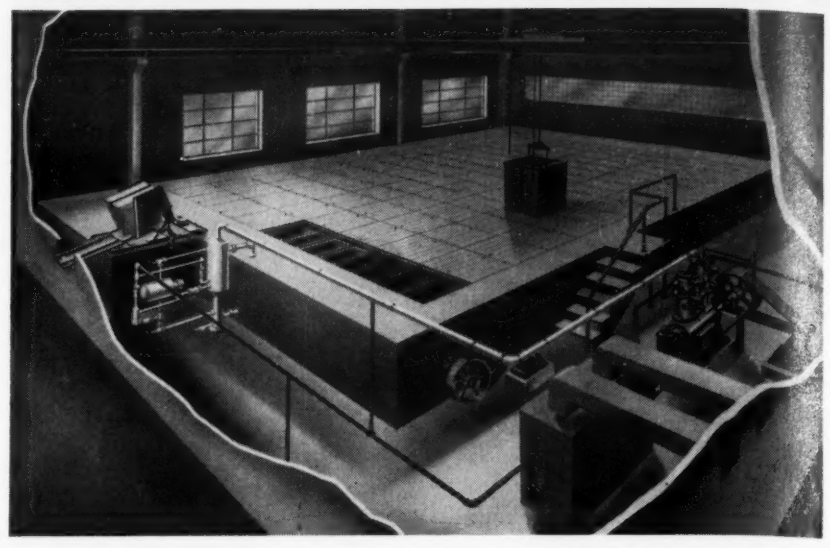
One innovation in the installation will be that the swimming pool water is utilized for condensing and cooling in place of a cooling tower, which cuts down the cost an estimated $3,500. The water is not polluted in the process.

Freberg Gets Institute Post

BIRMINGHAM, Ala.—Dr. C. R. Freberg, formerly associated with the Carrier Corp., has been appointed director of the engineering division of the Southern Research Institute, announces Dr. Wilbur A. Lazier, institute director.

"Appointment of Dr. Freberg will strengthen further the facilities of the engineering division which is enjoying wider acceptance by southern industry," Dr. Lazier said.

Complete Plant Shipped Anywhere



One of the ice-making plants currently being offered by Refrigeration Engineering Corp.

* * *

Reco Offers 4-Mos. Delivery on Packaged Ice-Making Plants of 5, 10, or 20 Tons

PHILADELPHIA — Refrigeration Engineering Corp. here announces that it is now offering 120-day delivery on complete, packaged ice-making plants in 5, 10, and 20-ton sizes.

The firm also said it would shortly announce production of complete cold storage plants in sizes ranging from 3,000 to 20,000 cu. ft. capacity.

"Freon" is used in the 5-ton ice plant, which manufactures ice in 100-lb. blocks. The 10 and 20-ton plants use ammonia compressors and make ice in 300-lb. blocks.

Some of the major components provided with each plant are compressor, compressor motor, cans, controls, gauges, charge of refrigerant, and agitator.

Complete assembly drawings for each plant are also furnished. Standard designs, the company said, can be modified to accommodate equipment in existing structures.

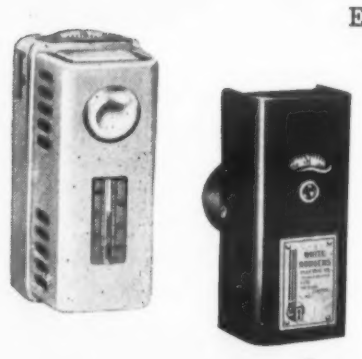
For users located in regions where electric power is not available, diesel engine or generator equipment is furnished.

All plants are carefully boxed for export, with component parts marked to correspond with assembly drawings, it was pointed out.

Cold storage plants, according to Reco, will consist of compressors, evaporative condensers, product coolers, piping, wiring, valves, fittings, controls and electric distribution panels, charge of refrigerant, and complete layout and assembly drawings.

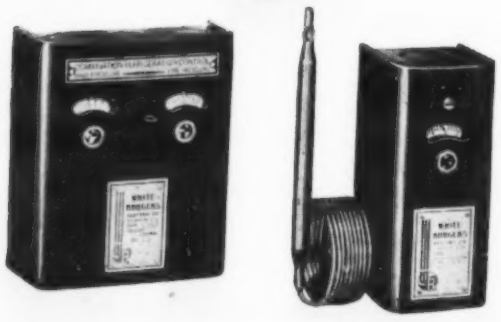
No wonder we installers like WHITE-RODGERS controls

There's no waiting to check settings... just set them and go on to the next job



Easy-to-read, visible dials, accurately calibrated in degrees Fahrenheit or pounds pressure, make installation and adjustment of White-Rodgers automatic refrigeration controls quick and easy.

When you're responsible for the operation of equipment, it's well to remember that such equipment can be only so good as the controls that make it work. That's why more and more manufacturers are standardizing on White-Rodgers refrigeration and air-conditioning controls. White-Rodgers Electric Company, St. Louis 6, Missouri.



WHITE-RODGERS Controls FOR REFRIGERATION HEATING AND AIR CONDITIONING

Straus-Frank Co. Marks 78 Years In Texas, Moves To New Houston Quarters

HOUSTON, Texas — The Straus-Frank Co., distributor of air conditioning, refrigeration, electrical, and automotive equipment in the Southwest, began its 78th year of business in Texas on May 5 as the firm's Houston branch moved into a modern, spacious new building at 4000 Leeland.

The air conditioning department, under the management of L. A. Walton, is a contracting division, set up entirely separate from the concern's other departments. It is a complete division with its own management, accounting, fabrication plant, and service.

One of the features of the new Houston quarters is the display room designed in the form of a perfect circle, 60 feet in diameter and providing more than 200 ft. of wall space for display installations. Illumination in the room is achieved with indirect cove lighting combined with 35 recessed spot lights around the outer rim of the circle.

The Straus-Frank Co., which had its beginning in San Antonio as a saddle shop, is now headed by Joe R. Straus as president and has branch establishments located in Houston, Galveston, Beaumont, Port Arthur, and Corpus Christi. The concern's headquarters are in San Antonio.

Robert D. Straus, executive vice president, is general manager of the Houston operations. Other officers include Ray E. Simpson, vice president and director; Ben Collins, vice president; Morris Strum, secretary-treasurer; J. L. Quill, vice president.

The company entered the air conditioning contracting business in 1932 when it assumed the representation of the Carrier Corp. Straus-Frank now also represents the Coolerator Co. on household refrigerators and food freezers; and Iceberg Refrigerated Locker Systems, Inc.

Mr. Walton, as department manager and chief engineer in the air conditioning division, is assisted by W. F. Scruggs, pre-contract and design engineering supervisor, and Paul B. Shepherd, contract and field engineering supervisor. L. J. Cochrane is general construction superintendent in charge of all construction and installation work and is assisted by E. E. Holtkamp as shop manager. Curtis Woodall is construction superintendent and W. W. Acord is superintendent of all pipe work.

complete ice-making tank, insulation, can hoist, can dump, can filler, calcium chloride, piping, wiring, valves,

DETECTS EVEN THE SMALLEST GAS LEAK IN "JIG TIME"

MODEL H-1

Turner

HALIDE REFRIGERANT GAS LEAK DETECTOR

Find leaks involving all chlorinated hydrocarbon refrigerants quickly and accurately with Turner's highly-sensitive Model H-1 Halide Detector. This blowtorch-type burner employs a simple chemical principle . . . flame becomes *green* whenever gas is present in the area surrounding a defective cooling unit. Designed and constructed throughout for long, dependable service. Has a flexible exploring tube for easy probing in "hard-to-get-at" places; holds one pint of alcohol fuel; measures 8" from handle to tip of burner x 7½" high x 4½" wide; can also be used as a blowtorch.

AVAILABLE FOR IMMEDIATE DELIVERY

Made by the manufacturers of nationally-known Turner Blow Torches.

THE TURNER BRASS WORKS
SYCAMORE ILLINOIS
Since 1871

greater resiliency

Jarrow...

Refrigerator Door Gaskets Are Again Made From Crude Rubber

Always Demand These Quality Gaskets

JARROW PRODUCTS
420 N. LA SALLE ST., CHICAGO 10, ILLINOIS

Conflicting Shows--

(Concluded from Page 1, Column 4)

difficulties which will face numerous exhibitors early in 1948 may be avoided in future years."

Mr. McNeal drew attention to the following resolution unanimously adopted at the ACRMA Annual Meeting at which leading manufacturers of air conditioning and refrigerating machinery were represented:

"WHEREAS participation in shows promoted by organizations in the air conditioning and refrigeration industry and allied industries, while of importance to member-companies, involves considerable expenditure of manpower and money; and

"WHEREAS it is desirable to economize in such expenditures as much as possible without adversely influencing the promotional effectiveness of participation in such industry shows;

"IT IS RESOLVED that the American Society of Heating and Ventilating Engineers, sponsors of the Heating and Ventilating Exposition, be informed that it is the desire of the member-companies of the Air Conditioning and Refrigerating Machinery Association, Inc., that the Heating and Ventilating Exposition be placed on a biennial basis; and

"THAT the Heating and Ventilating Exposition and the All-Industry Refrigeration and Air Conditioning Exposition be held in alternate years and in such a manner as to avoid conflict and the placing of an undulyheavy burden on prospective exhibitors, such as is now facing ACRMA member-companies in the year 1948."

Kansas City Power--

(Concluded from Page 1, Column 2)

customers' needs to date and hopes to continue to do so.

"Because of delays in the delivery of a new 35,000 k. w. turbogenerator and boiler, our reserve capacity is at present somewhat limited," he explained. "This new equipment has been on order since 1941 but, because of the war emergency, was diverted to other uses and will probably not be placed in service before Jan. 1, 1948."

A description of how the restriction would operate is contained in an order issued by H. H. Kuhn, vice president of the utility. Effective dates of the regulation are June 1 to Oct. 15.

According to the order, restrictive action would become necessary "whenever in the judgment of the company service for domestic, commercial, industrial, and essential municipal and governmental purposes will be placed in jeopardy by the use of cooling and air conditioning equipment."

In such cases, the utility can require each consumer having an installation of 10 hp. or more to restrict usage to not more than five hours, between 7 a.m. and 5 p.m., on any day except Saturday or Sunday. The company would designate exact hours of operation and would notify affected consumers by telephone.

The order applies to all refrigeration equipment used for air conditioning and all cooling equipment used for purposes other than food preservation or as an integral part of industrial processing. However, it does not apply to hospitals or homes where sickness exists.

Store Modernization--

(Concluded from Page 1, Column 2)

show, the management announces, along with the latest techniques of store exteriors, interiors, furnishings, and decorations.

In addition to air conditioning, refrigeration, and heating equipment, there will be shown lighting fixtures, floorings, wall coverings, ceilings, display cases, business machines, and allied equipment.

Each of the six basic clinics to be held during the show week for retailers will be conducted by panels of architects, retail executives, engineers, designers, and educators. The panels will be conducted twice during the week, with different speakers for each series.

"Modernized Store Lighting" is scheduled for July 7 and 10; "Modernized Store Layout," July 8 and 11; "Modern Use of Materials," July 7 and 10; "Modernized Display and Fixturing," July 8 and 11; "Modern Store Fronts," July 9 and 12; "Modernized Customer Comfort," July 7 and 10.

Admission to the show and conference will be by registration cards, which may be obtained from Store Modernization Show, 20 E. 55th St., New York 17, N. Y.

The following firms have already signed for exhibit space:

Airdow Mfg., Inc. (store display fixtures).
Airmatic Systems, Inc. (pneumatic message carriers).
Aluminum Awning Co. (aluminum awnings).
American Institute of Architects (educational exhibit).
Bergen Cabinet Co. (fixtures).
Bigelow-Sanford Carpet Co. (rugs & carpets).
Bliss Display Corp. (showcases & display devices).
A. N. Brabrook (rubber mats).
Bulkley, Dunton & Co., Inc. (display papers).
Century Lighting Co. (lighting fixtures).
Cluett Peabody & Co., Inc. (miniature store & fixtures).
Coca Cola Co. (fountain equipment).
Colonial Electrical Products, Inc. (lighting fixtures).
Columbus Show Case Co. (show cases).
Eastern Fixture Co. (lighting fixtures).
Electronic Displays Sales (electronic signs).
Executone Co. (intercommunication systems).
Federal Electric Co., Inc. (lighting fixtures).
Freshn'd Aire (air circulators).
Garden City Plating & Mfg. Co. (hardware fixtures).
General Electric Co. (lamp department).
General Lighting Co. (lighting fixtures).
Gotham Lighting Corp. (lighting fixtures).
Great Lakes Store Equipment Co. (display fixtures).
Hat Research Foundation (hat display fixtures).
The Greneker Corp. (mannequins).
Institute of Carpet Mfrs. (educational exhibit).
J. G. Furniture Co., Inc. (store furniture).
Jaff Bros. Woodwork, Inc. (interiors).
The Kawneer Co. (store fronts & doors).
Madisonia Mannikins (mannequins).
Magnani Mannequins (mannequins).
Marble Institute of America (marble items).
McCray Refrigerator Co. (refrigeration equipment).
McPhilben Mfg. Co. (lighting equipment & accessories).
Merchandise Presentation, Inc. (plastic displays).
Monogram Lighting Units (lighting fixtures).
Monroe, Lederer & Taussig, Inc. (Moleta color guide).
Mosler Safe Co. (safes).
National Cash Register Co. (cash registers).
National Super Service Co. (heavy-duty suction cleaners).
Natural Creations (interior display & decorating).
New York Telephone Co. (telephone equipment).
S. J. O'Brien Sales Corp. (signs).
Photo-Vision, Inc. (display novelties, desk lamps).
Reynolds Metals Co. (aluminum acoustical ceilings).
Ross-Frankel, Inc. (store design & constr.).
Scheuer Creations, Inc. (display fixtures).
Seaporcel Porcelain Metals, Inc. (store fronts).
Frederic Shipman Co. (display fixtures).
S. S. Silver & Co., Inc. (store fixtures).
Sivakoff & Miner (store fixtures).
Spir-O-Freez Co., Inc. (frozen food case).
Swivelier Co., Inc. (wiring devices, lighting units).
Sylvania Electric Products, Inc. (lighting).
The Tile-Tex Co., Inc. (floor & wall coverings).
Timbertone Decorative Co., Inc. (veneer papers).
The Transhade Co. (transparent fadeproof shades).
Tytell Typewriter Co. (Royal portable typewriters).
U. S. Department of Commerce (retail trade publications).
U. S. Plywood Corp. (structural & decorative materials).
Waterbury Companies (turntables & lighting equipment).
Ken White Associates (retail planning, development & design).
Wolf & Vine (plastic mannequins).
York Corp. (air conditioning equipment).

Airtemp Dealer To Buy Building In Cincinnati for $100,000

CINCINNATI — Smith & Lowman, Inc., Chrysler Airtemp dealer in this city, has contracted to purchase property for approximately $100,000 it was reported recently. The building, divided into five-story and four-story units, containing 40,000 sq. ft.

The company expects to spend about $20,000 in remodeling the building which has a frontage of 80 ft. on Plum and 90 ft. on Court St.

Another Delaware Product

PREFABRICATED WALK-IN COOLERS AND STORAGE ROOMS

Built for Quality and Performance

Finest Materials and Workmanship Are Used On These Coolers

- Aluminum interior and exterior.
- Floor—heavy gauge galvanize.
- 4" fibreglas insulation throughout—Vapor proofed.
- Rubber gasket mounted on each panel to assure leakproof fit.
- Heavy duty aluminum covered door with heavy duty chrome plated hardware.
- Sections prefitted—simple to assemble, move or enlarge.
- Locate door at any side.
- Striking, impressive design. Economical and efficient.
- Equipped with interior vapor proof light and outside pilot light.
- Sized for every need—built in small sections. 7x7 to 7x19 and 10x7 to 10x19 7 and 8 ft. high. Also walk-in freezers and hardening rooms.

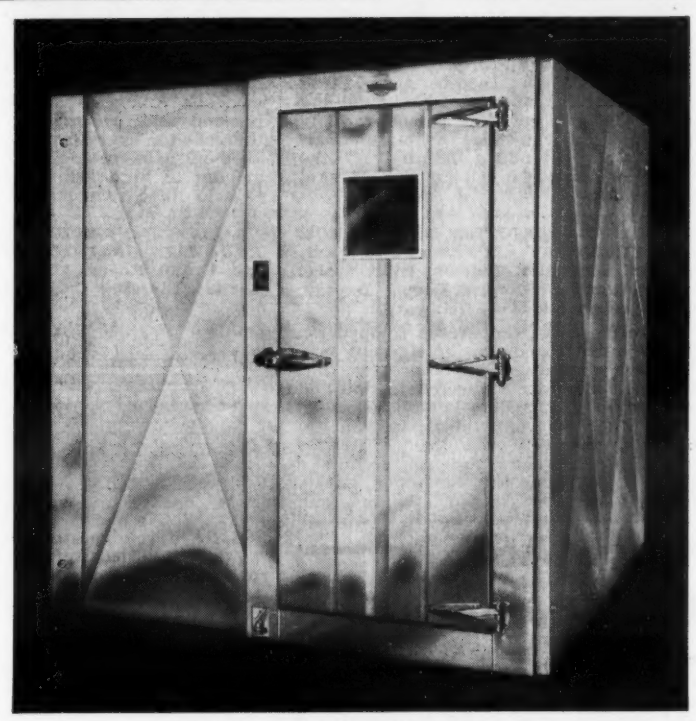
Available for immediate shipment with or without refrigeration equipment.

Can be refrigerated with our special equipment mounted panel, ready to plug in or by means of remote installation. Write today—don't delay—franchises for distributors and dealers.

OUR 17th ANNIVERSARY

DELAWARE REFRIGERATION CO.
834-850 N. Sixth Street, Philadelphia 23, Pa.

Manufacturers of Freezero beverage coolers, luncheonette cases, freezer cabinets, beer cooling equipment and other items.



Model No. AF-77—Walk-in Freezero

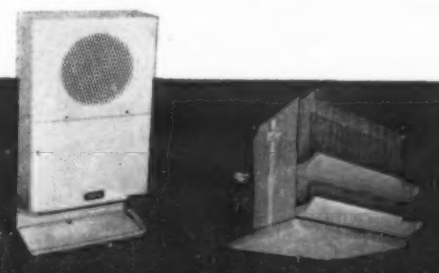
McQUAY DUAL PURPOSE UNIT COOLER

Here's a unit to match any cooling specification

DESIGNED to maintain precise temperature control at any point in the 0° - 37° F. range, the McQuay dual purpose unit cooler has built-in flexibility to match your cooling specifications. Rugged construction plus sound engineering assure dependable operation in all refrigeration applications.

Heart of the unit is the famous McQuay Ripple Fin Coil with its rippled fins and rippled tubes. Hydraulic expansion locks tubes in wide spun fin collars for permanent metal-to-metal contact. Fin construction means high heat transfer efficiency . . . extra coil strength. Unit features include three-way air deflection, slotted hangers for easy installation and water defrosting.

The advantages of water defrosting are now brought in the McQuay Unit Cooler, to all installations from the 0° to 10° range up to the 30° to 37° range where the removal of odors is a problem. Washing of the coil during periodic or daily defrosting provides positive action in elimination of odors that accumulate in the cooling or chill room. See your refrigeration wholesaler now or write McQuay, Inc., 1607 Broadway Street Northeast, Minneapolis 13, Minnesota. Representatives in principal cities.



McQuay

MAKE THE SEASONS COME TO YOU

EVERY PHASE OF AIR CONDITIONING

ANNOUNCING

Classes in THERMODYNAMICS and ADVANCED AIR CONDITIONING are to start on a part time basis and will meet Tuesday and Thursday evenings starting July 8th, 1947. Full time classes will start August 18, 1947. The course will cover fundamental thermodynamics, power generation, heating, refrigeration, and all phases of air conditioning. Prospective students should be high school graduates, basic refrigeration or air conditioning school graduates, or have experience in refrigeration, heating, or air conditioning. G. I. approved. Write, or call between 9 A.M. and 5 P.M. daily, for information.

GEORGE H. CLARK, Director,

DETROIT AIR CONDITIONING INSTITUTE
4125 Grand River Avenue, Detroit 8, Michigan. Te. 3-2961.

Ask Your Jobber for

HASCOBILT *Parts*

SUCTION *and* DISCHARGE VALVE, DISC, REEDS *and* SPRINGS

for Conventional and Hermetic Type Compressors

HASCO, INC.
GREENSBORO, N. C.

If your jobber can't supply you, send for illustrated catalog and price list.

PATENTS

Week of April 8

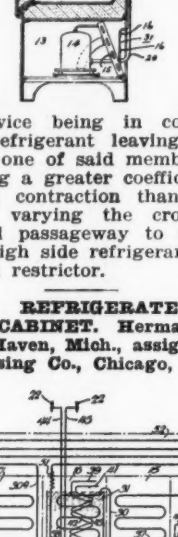
(Continued)

2,418,619. **FINNED TUBE. John W. Brown, Jr., Lakewood, Ohio, assignor to Brown Fintube Co., Elyria, Ohio, a corporation of Ohio.**

5. A heat exchange element comprising a metallic tube; a plurality of transversely disposed metallic fin members projecting radially from the surface of said tube and formed with one or more alined radially extending slots; and one or more longitudinal fins extending axially of the tubes and disposed each in one of said slots.

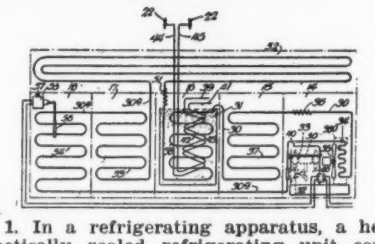
2,418,671. **RESTRICTOR DEVICE FOR REFRIGERATING APPARATUS. Sylvester M. Schweller, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware.**

1. A refrigerating apparatus comprising, a temperature responsive refrigerant flow compensating device, a compressor unit having a condenser connected to one end of said device, a fixed restrictor connected to the other end of said device and an evaporator between said fixed restrictor and said unit, said compensating device including a metal tube member and a metal rod member secured therein, said rod member normally being slightly smaller in diameter than the inside diameter of said tube member to form a capillary passageway throughout the length of said device, the exterior of said device being in contact with air in the vicinity of said condenser and the interior



of said device being in contact with high side refrigerant leaving said condenser, and one of said members of said device having a greater coefficient of expansion and contraction than the other thereof for varying the cross-sectional area of said passageway to control the amount of high side refrigerant admitted to said fixed restrictor.

2,418,715. **REFRIGERATED SODA FOUNTAIN CABINET. Herman K. Johnson, Grand Haven, Mich., assignor to The Bastian Blessing Co., Chicago, Ill.**



1. In a refrigerating apparatus, a hermetically sealed refrigerating unit comprising a plurality of evaporating containers, conduit means connecting said containers, means for circulating a volatile refrigerant in a closed circuit through said containers and said conduit means in series, a plurality of restrictions within said conduits each having a permanently open passage therethrough and functioning as expansion valves for maintaining said evaporating containers at different temperatures, a separate cooling compartment for each evaporating container, a thermo-sensitive device within one of said compartments for controlling the operation of said second-named means, one of said compartments having a pair of coils for carbonated and sweet water extending therethrough and a heat exchange liquid surrounding said coils and in contact with the evaporating container.

2,418,745. **QUICK FREEZING OF FOODSTUFFS. Luis H. Bartlett, Austin, Tex., assignor to Texas Research Corp., Austin, Tex.**

1. The process of quick freezing food articles which consists in bringing the articles into direct contact with a metastable polyphase refrigerating medium containing a sugary freezing point lowering solute and finely divided particles of the solid phase of the solvent, separating from the articles the major portion of the adhering solution, and refrigerating the medium to remove the heat taken up by the medium during the quick freezing of the articles.

(To Be Continued)

MASTER

Food Conservators

have the call. This Modern Food Conserver has many unusual advantages. Sold through distributors of refrigeration and insulation.

Write for particulars

Master Manufacturing Corp.
121 Main St. Sioux City 4, Iowa

Over 1,000,000 In Use

Canadian **Refrigeration Journal**

The only publication servicing the industry in Canada

National Business Publications
Limited
Gardenvale, Que. - Canada

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $2.50 per insertion. Limit 50 words.

RATES for all other classifications $5.00 per insertion. Limit 50 words.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

POSITIONS AVAILABLE

SALES ENGINEER—must have complete knowledge and experience in heating, ventilation, and refrigeration. Experience must include actual installations, estimates and sales. Must be willing to travel when necessary. Written applications giving full details as to experience, salary, etc., B. M. HEEDE, INC., 80 Broad Street, New York 4, N. Y.

EXPERIENCED COMMERCIAL refrigerator salesman wanted by large manufacturer to sell cooler equipment to butchers, dairies, taverns in New Jersey. Resident preferred. Car essential. Exclusive territory. Salary or commission. Write full details giving age, experience, references, etc. NATIONAL EQUIPMENT COMPANY, 291-307 Cleveland Street, Orange, N. J.

WANTED: EXPERIENCED service manager familiar with heating, air conditioning and commercial refrigeration operation for permanent position with large and well-established distributor. Must be capable of handling and training men. Good salary, fine future, excellent shop facilities and equipment, good working conditions. Reply, SIDLES CONDITIONED AIR COMPANY, Omaha, Nebraska.

WANTED: REFRIGERATION engineer having background of experience in modern dairy and ice cream plant equipment. Independently owned concern with good chance for advancement. Apply in your own handwriting stating qualifications, experience, starting salary, age, and when available. Applications treated with strictest confidence. STURTEVANT DAIRY PRODUCTS CO., Rock Island, Illinois.

WANTED: FACTORY representative to establish dealers and distributors in the State of Indiana for an old established Eastern manufacturer of farm milk coolers, farm freezers, and commercial refrigeration products. Excellent potential earning possibilities. Reply to BOX 2383, Air Conditioning & Refrigeration News.

A REFRIGERATION mechanic, must be A-1 in commercial and air conditioning. Reference required, salary to start at $65.00 a week. BOX 2393, Air Conditioning & Refrigeration News.

OPENING AVAILABLE for salesman experienced in appointing and working with refrigeration dealers and servicemen. Two weeks in Kansas City; two weeks traveling Kansas and Nebraska. Salary and commission. Please give sufficient details in first letter to interest us. We have no similar employees at this time. BOX 2395 Air Conditioning & Refrigeration News.

MAJOR REFRIGERATOR manufacturer, eastern seaboard requires service manager, national organization experience refrigeration or closely related field. Capable assuming full charge field service, correspondence, information, training, replacement, parts stocking, distribution and warranty proceedure. Good opportunity qualified man. Above average ability, initiative, personality. Salary open. Write in confidence. BOX 2396 Air Conditioning & Refrigeration News.

EXECUTIVE SECRETARY—National trade association affiliated with the refrigeration Industry is seeking applicants for an executive secrtary. All applicants should give full details, including age, nationality, education, experience, salary expected, and any information that will enable the board of directors to make a selection. Write BOX 2397, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

MOTORS AND condensing units—available at once—⅛-¼-⅓-½ Universal condensing units with or without motors. Special—six hole ice-cream cabinets with ¼ hp. Copeland units less motors $225. Also beverage coolers, beer equipment, stainless steel reach-in freezers. ALBROD CORP., 319 West 48th St., New York City 19, CI 6-9100.

LARGE QUANTITY Universal DD33FLI condensing units with motors and without motors. Will sell at manufacturer's cost, $70.25 and $52.45 if purchased in lots of 3, 1 with motor and 2 without. ASSOCIATED ELECTRONICS CO., 132 Nassau St., New York, N. Y. BEekman 3-3912.

IMMEDIATE DELIVERY—Jordon 16LL freezers complete with compressor, $350.00; 30 cubic foot upright freezer with ½ HP compressor, $650.00; 20 cubic foot upright with ⅓ HP compressor $500.00; Panelectric automatic ice cube maker, $350.00; F.O.B. Cincinnati, BLSD. 20th CENTURY REFRIGERATION COMPANY, 1630 Walnut Street, Cincinnati 10, Ohio.

MILK COOLERS—3-4-6-8-10 can sizes in stock. Standard make, with nationally advertised condensing units. Send for a list of our stock and prices. Special discount for quantity purchases. COGHLIN ELECTRIC CO., 155 Summer St., Worcester 1, Mass. Phone 5-5275.

IMMEDIATE DELIVERY—new air conditioning equipment. Weathermakers complete with motor, "Freon" coil, etc. 2 ton to 25 ton. SWSI, DWDI, and twin centrifugal blowers, propeller fans, heating and cooling coils, evaporative condensers, self-contained air conditioning units, condensing units. CONTROLDTEMP CORP., 236 Butler St., Brooklyn 17, N. Y.

SECTIONAL WALK-IN coolers built to order on short notice. Genuine Fiberglas insulation. Highest grade lumber guaranteed. Beautiful workmanship and finish. Bright chrome hardware. Crated no extra charge. Delivery and insulation service available at reasonable rates within 100 miles of NYC. COOLER KING MFG. CO., 6013—13 Ave., Bklyn. 19, N. Y.

FOR SALE—AC motors ½ to 3 hp. single and 3 phase, list price. Immediate delivery. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

QUALITY BOBTAIL fountains; reach-ins, walk-in boxes—wood, metal; dough retarders; double duty cases—stainless steel, porcelain; dairy, florist, bakery cases; ice cream hardening cabinets; thermopane frozen food cases; milk, sandwich coolers; stainless steel back bars; with machines. Equipment made to special order. FRIGITEMP CORP., 931 Bergen St., Brooklyn 16. MA 2-9093.

IMMEDIATE DELIVERY—Cafeteria style Day and Night water coolers model VP-10—2G $295 complete, also VP-25—2G at $395. F.O.B. New York. GENERAL REFRIGERATORS CORP., 678 Broadway, New York, N. Y.

15 HP Westinghouse motor, slightly used, 440 volts, 3 phase, 60 cycle, 1175 RPM—$215.00. Also 3 HP Louis Allis motors at $95.00 each. F.O.B. New York. GENERAL REFRIGERATORS CORP., 678 Broadway, New York, New York.

NEW SELF-CONTAINED air conditioner, 7 tons, complete, Typhoon, original crate, as advertised June 2nd Refrigeration News—List $2450.00, priced $1350.00 FOB St. Louis, plus excise tax. Thirty years air conditioning experience are embodied in unit—float power, multi-outlet, expansion valve, two-way grill, filters. WESTHUSSMANN DISTRIBUTING CO., INC., 3325 Washington, St. Louis, Mo.

10,000 FEET 3S-0 aluminum drawn tubing .028" wall x ½" O.D. in 40 and 50 foot lengths @ .0388 per foot FOB. MIDWEST INDUSTRIES, INC., 835 Osage, Kansas City, Kan.

1000 MOTORS, FOR sale, from stock ⅝ hp.—3425 RPM— 3 ph/230 V. (Underrated—easily equal to ¾ hp.) Ballbearing, for vertical or horizontal. Enclosed Fr. ¾ in. shaft. $36 each. This rugged motor cannot burn out. (Glass insulated wire coils.) MODERN SUPPLY CO., 206 Fulton St., New York 7—CO 7-0100.

SECTIONAL WALK-IN coolers, kiln dried fir front, spruce interior. Chrome hardware, metal saddle, finished shellac 4 in. Fiber $1.20 for freezers 6 in. Fiber $1.40 per sq. ft. Cork insulation prices on request. Limited number new refrigeration units coils, etc. available. Send us your requirements. REFRIGERATION SPECIALTIES, INC., 721 Flushing Ave., Brooklyn 6, N. Y.

COMPLETE REFRIGERATION systems (condensing units, evaporators and spare parts). Army specifications—12000/24000 BTU's. Powered by 10 HP Continental gas engines. Crated for export. 10 only—liquidation prices. Warehoused Chicago. L. M. ROSS—Room 406, 540 North Lake Shore Drive, Chicago 11, Illinois.

FLOAT REPLACEMENTS. For replacing defective high side floats on all household units. Regular charging connection, capillary tube setup, internal strainer and exact mounting plate. Part #2000-Westinghouse (4 hole plate), and #2010 (3 hole plate): Part #2020-Gibson Part #2030-General Electric (DR-1 & DR-2). Part #2040-For general replacement (undrilled plate). $6.75 each. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three $6.75 (Part No. 1020). Installation tool $1.65. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

IMMEDIATE DELIVERY from stock at 50-10 discount all sizes Kramer-Thermobanks, blowers, Peerless flash coolers, Bush plasti-coolers for walk-in boxes up to 24 x 12, condensing units, valves, all refrigeration supplies at proper prices. WHOLESALE DISTRIBUTORS, INC., 150-19 Liberty Ave., Jamaica 4, N. Y. JAmaica 6-1733.

MANUFACTURER OFFERS his surplus at less than market price. 1000 thermostats 5°-40° "White Rogers" & "Penn." 1300 Expansion valves "Detroit-" "Automatic." 1500 cold plates. 700 circulating pumps—"Eastern Engineering." 1200 dehydrators ¼" S.A.E. 400-1/30 HP motors. Prices on application. BOX 2394 Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

LOW COST automatic fire extinguisher. Exclusive county rights available for the Marvel automatic Kill-Fyr extinguisher. Component parts approved. Easy sales, good profits. Write for descriptive circular and facts from satisfied users. KILL-FYR MANUFACTURING CO., Dept. R-88, Camden, N. J.

COMPRESSORS AND condensing units for commercial and domestic refrigeration, air-conditioning and reverse cycle heating. Modern, two-stage, single piston, reduced size and weight—reduced power requirements—reduced cost and greater margin—greater volumetric capacity—greater efficiency. Real opportunity for quality merchandisers. MANCO CORPORATION, 39 South LaSalle Street, Chicago 3, Illinois.

BUSINESS OPPORTUNITIES

COMMERCIAL REFRIGERATION business, doing $100,000.00 inventory approximate $15,000.00, service 20 southeastern counties South Dakota and six Minnesota counties. Valuable franchises available. Hundreds of active accounts. Inventory 100% clean, will be sold at invoice cost. Write Harold J. Johnson, JOHNSON'S, INC., Mitchell, South Dakota.

$17,500 BUYS an established refrigeration service company. Clientele—good will—parts and equipment. Home with 5 large, light rooms, hot water, oil heat, insulated building. Modernized store and large work shop. Good location. A good buy. Inquire J. I. KISLAK, INC., Realtors, Kislak Building, 32 Journal Square. Jersey City, New Jersey.

WALK-IN
REFRIGERATOR DOORS
(Product of JAMISON MFG. CO.)
$46.00 PER SET OF 3
—IMMEDIATE DELIVERY!
Brand new sets of 1 outside door (6" cork insulation) and 2 vestibule doors . . . all 3 Galvannealed sheet metal covered front and back, includes complete door frames and accessories.
Subject to prior sale.
Consolidated Conditioning Corp.
26 West 47th Street, New York 19, N. Y.

REFRIGERATION PLANT
—consisting of 2 FRICK 6 cylinder, enclosed V-type, 4⅜ x 4¼, Freon 12 compressors rated 7.5 tons each at minus 15 degrees suction (total of 15 tons) each complete with marine type condenser, condenser water pump, receiver, expansion valves and dehydrators, strainers, gauges and thermometers. Either electric or steam engine drive design for maintaining insulated space of 30,000 cubic feet at 0°. New and completely crated for Export.
Complete plant $4,950.00
Write to Mr. Ammann
Consolidated Conditioning Corp.
26 West 47th St.—New York 19, N. Y.

IMMEDIATE DELIVERY!
150 TON
AIR CONDITIONING SYSTEM
consisting of 2 Westinghouse CLS 75 h.p. condensing units, complete with evaporative condensers, cooling coils, pumps, starters and expansion valves. At present 220/440 Volt 2-phase 60 cycles, but readily convertible to other current characteristics. Used only 156 hours and now completely reconditioned.
F.O.B. Yonkers, N. Y.—$9,800.00
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The EBCO Mfg. Co.
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Columbus 8, Ohio

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GENERAL SETS THE PACE IN REFRIGERATOR VALUE
Write for our new low prices!
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Stainless Steel Reach-in-Refrigerators
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GRO **GENERAL REFRIGERATORS CORP.**
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MANUFACTURERS SINCE 1928

Harry Alter Co. Branches Give On-the-Spot Demonstrations During 'Detroit Products Week'

Something new in the sales technique at refrigeration parts and equipment wholesalers' establishments was inaugurated recently by the Harry Alter Co. when it held a special "Detroit Products Week" in which sales representatives of Detroit Lubricator Co. put up a special display at the order counter and gave demonstrations of the firm's products. In this picture Dan Gott and Randolph Smith are conducting the demonstration at the Chicago store of the Alter Co. The same program was also carried out at the New York branch.

Fire Code Changes

(Concluded from Page 1)

tioning Department, who heads the NFPA air conditioning committee, at the group's 51st annual meeting in Chicago. The revisions will probably be discussed at NFPA's next annual meeting.

Although the association's codes and standards are not law in themselves, many of them have been enacted into law, and have served as guides to government inspection departments and industry, according to NFPA.

Text of the proposed changes is as follows:

"In buildings equipped with air conditioning or ventilating systems where removal of smoke is desirable or advantageous for the protection of life or property, the air conditioning or ventilating systems may be designed for utilization in the removal of smoke.

"Note: It is recommended that in premises where the panic hazard is pronounced means be provided for manually shutting down the supply air fan of an air conditioning or ventilating system and having the return or exhaust air fan in operation for the removal of smoke by exhausting the air to outdoors.

"In hotels, department stores, hospitals, institutions, and similar occupancies, and multi-family houses having neither air conditioning nor ventilating systems, it is recommended that an exhaust system be provided, in addition to the toilet exhaust, to be manually operated in the case of fire to remove smoke."

"No attic, basement, or concealed space shall be used as an integral part of a duct system unless it conforms to all the requirements for ducts."

"Corridors and stairways in hotels, hospitals, institutions, and similar occupancies and public corridors and stairways in multi-family houses shall not be used as a part of systems for supply of air to rooms or removal of air from rooms."

"In the case of a two-family residences, the public hall, public corridor, or public stairway shall not be used as a part of systems for supply of air to rooms or removal of air from rooms."

3 Alcoa Sales Executives Become Vice Presidents As G. J. Stanley Retires

PITTSBURGH — Retirement of George J. Stanley as vice president and general sales manager of Aluminum Co. of America and the promotion of three assistant general sales managers to vice presidencies have been announced by the company.

Mr. Stanley's retirement from these positions will take effect July 1. After that date, however, he will continue to serve as a director of the firm. He has been with Alcoa for more than 42 years.

The new vice presidents are Ralph V. Davies, Robert B. McKee, and Donovan Wilmot, all men with more than 25 years service with the company.

Successor to Mr. Stanley as vice president and general sales manager will be Mr. Davies, who has been in charge of Alcoa's sales engineering and sales development activities since 1944. His tenure with the company extends back to 1919.

Mr. McKee joined Alcoa in 1915. He has had charge of district sales offices and all direct selling activities since 1944.

Mr. Wilmot has had charge of product manager activities and warehouse distribution for the past three years. He came to work for Alcoa in 1912.

M-H Elects J. H. Binger Assistant Vice President

MINNEAPOLIS—James H. Binger has been elected assistant vice president of the Minneapolis-Honeywell Regulator Co., reports Harold W. Sweatt, president.

J. H. Binger

A graduate of the University of Minnesota law school, Mr. Binger had been assistant secretary of the company, since 1945, from which position he has resigned to assume his new duties, Mr. Sweatt said.

In his new duties, Mr. Binger will devote most of his attention to the sales department and will assist Thomas McDonald, vice president in charge of sales.

New York Distributor Purchases Tract as Showroom, Plant Site

NEW YORK CITY—John W. Walter, Inc., radio and appliance distributor here, has announced the purchase of the north east corner of Northern Blvd. and 33rd St.

Buildings now on this site will be demolished to make room for a new showroom and operational plant, according to the company. The firm is distributor for Stewart-Warner television, Presteline ranges, and other appliances.

Kramer Opens West Dealership

CHILTON, Wis. — W. G. Kramer has opened the Kramer Appliance Sales here with Philco and Maytag as featured lines.

IT'S MORE THAN JUST ANOTHER REFRIGERATION PLATE

In thousands of freezer cabinets, frozen food locker plants, sharp freeze shelf stacks and similar equipment all over the country Hubbell-Yoder Refrigeration Plates are doing the job better than it has ever been done before, and at a lower cost. They have established a new and vastly higher standard of operating efficiency and economy for low temperature refrigeration. They have set up a new mark for all other freezing units to shoot at.

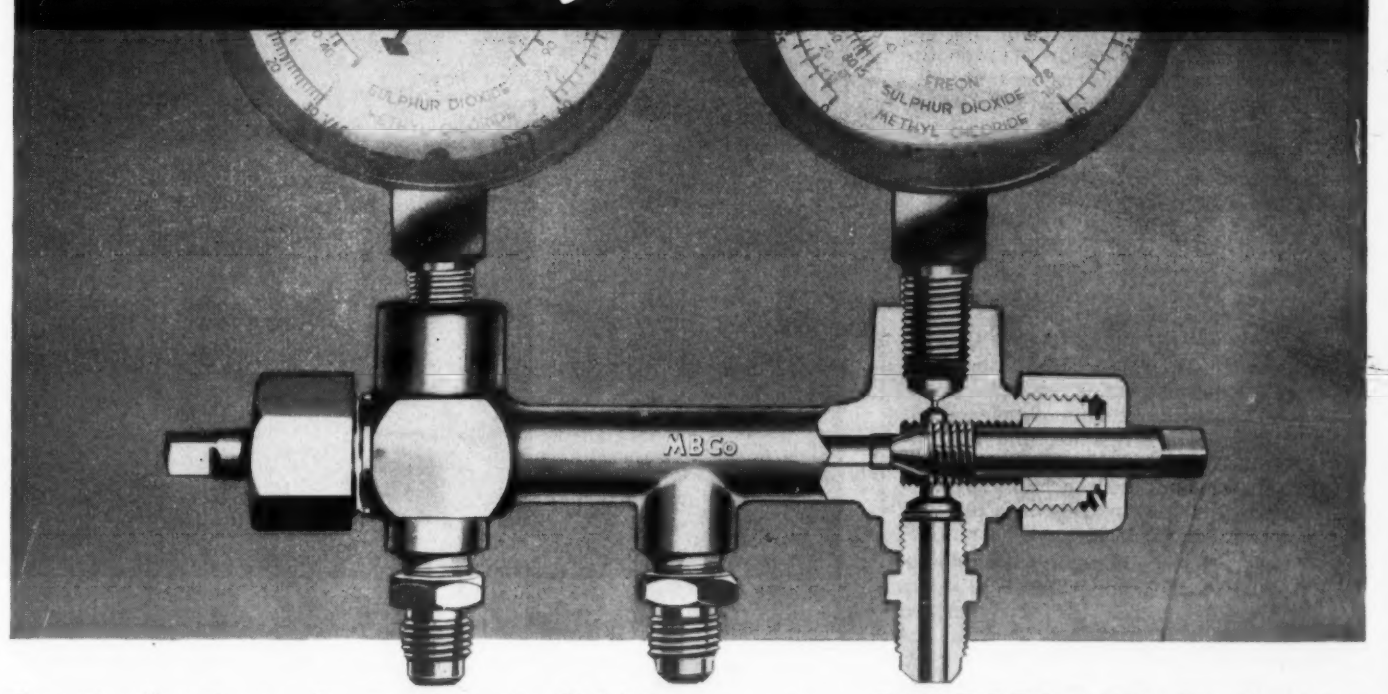
That briefly, is what the Hubbell-Yoder system of Complete Surface Freezing means when the chips are down. Would you like to know how it can be adapted to your requirements? Write, wire or phone.

HUBBELL YODER REFRIGERATION PLATES

ENGINEERING SERVICE, INC.
1311 WEST 80th STREET • • CLEVELAND, OHIO

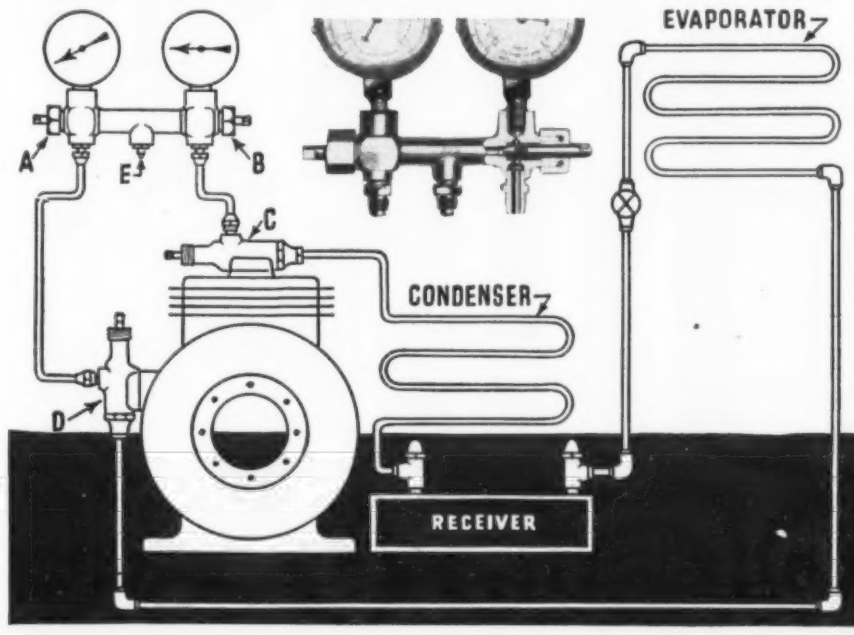
THE MASTER SERVICE MANUALS - - -
— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.
BUSINESS NEWS PUBLISHING CO., DETROIT

MUELLER BRASS CO. TESTING MANIFOLD
A Handy Tool for the Serviceman



The Mueller Brass Co. Testing Manifold is a service tool. It enables a service man to quickly install pressure gauges to diagnose trouble, and facilitates charging, purging, adding oil, etc.

This device allows the service man to watch the pressure gauges during charging and purging. It saves considerable time on almost any service work that must be done on the compressor.



DIRECTIONS FOR USE

1. To Observe Operating Pressures
Valve A—Closed Valve C—Back Seat Cracked Open
Valve B—Closed Valve D—Back Seat Cracked Open

2. To Charge Refrigerant Through Compressor
Connect Refrigerant Drum to E
Valve A—Open Valve C—Back Seat Cracked Open
Valve B—Closed Valve D—Closed—Front Seated

3. To Purge Receiver
Connect Purge Line to E
Valve A—Closed Value B—Open
Valve C—Back Seat Cracked Open

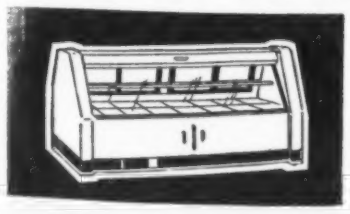
4. To Charge Liquid Into High Side
Connect Refrigerant Drum to E
Valve A—Closed Valve B—Open
Valve C—Mid Position

5. To Build Up Pressure in Low Side for Control Setting or to Test for Leaks
Seal E with Seal Cap
Valve A—Open Valve C—Back Seat Cracked Open
Valve B—Open Valve D—Mid Position

6. To Charge Oil Through Compressor
Connect Oil Supply to E
Valve A—Open Valve C—Open—Back Seated
Valve B—Closed Valve D—Closed—Front Seated

MUELLER BRASS CO.
PORT HURON, MICHIGAN

FALL IN LINE WITH FOGEL



JOIN OUR HUNDREDS OF SUCCESSFUL DISTRIBUTORS
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INTERESTING PROPOSITION TO QUALIFIED DISTRIBUTORS
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5400 Eadom St., Philadelphia 37, Pa.

Buying Power--

(Concluded from Page 1, Column 5)

about 20% was involved in the purchase of consumer durables and housing as well as the acquiring of nonliquid assets.

An overall increase in buying power can be seen from these facts in the new survey:

1. There was a 15% drop in the number of families earning an aggregate of less than $2,000 per year.

2. There was a 12% boost in the number of spending units in the category between $2,000 and $5,000.

3. There was a 34% rise in the number of groups earning over $5,000 annually.

Despite these signs of a shift among families to the higher income brackets, experts were inclined to pooh-pooh the idea that consumer purchasing power had risen very greatly. Many lower income families, they pointed out, had been priced out of a considerable portion of the market; higher income groups on the other hand, are holding themselves in check to await a lowering of prices.

Nearly half of the family groups interviewed in the new survey expected prices to drop. Only one out of eight thought there would be a further rise in prices.

It must be taken into account, however, that the middle income bracket represents a strong segment of the market for durables. Consider, for example, that the spending units in the $2,000 to $5,000 annual income category accounted for over 50% of the total outlay for durable goods and housing in 1946.

By and large, consumers covered their purchases of durables in 1946 by drawing on savings for one-third, borrowing about one-fifth, and getting the rest from trade-in allowances and current income.

Market analysts believe, therefore, that a large reservoir of consumer credit still remains untapped. Interviews brought to light that borrowing by consumers, already on the increase, is going to continue its upward trend. A total of 37% of the groups who plan to buy automobiles and other durables during the coming year intend to use credit, the survey reported. This is a boost of 5% over the number that actually utilized such credit during 1946.

New Oregon Firm--

(Concluded from Page 1, Column 4)

It was announced that the new corporation will take over the home freezer manufacturing business of the Chapman Mfg. Co., and for the time being will operate with the same personnel in the Chapman plant in Corvallis. Ultimately it is planned to erect a new plant.

The Chapman company first began working with home freezer units in 1933, and erected its new modern plant shortly after the end of the war.

Ralph Chapman, president of the Chapman firm, announced that his company would devote its entire effort in the future to the manufacture of processed Chapco board and Chapco Soil Mulch, both products being made from Wood waste and bark.

The Chapman Refrigerator Sales, which has been the distributing agency for Chapman home freezers since 1939, will be merged with the new corporation.

ASRE Given Gala Time on Coast--

(Concluded from Page 1, Column 4)

has been getting a lot of publicity lately for the cracks he has been taking at veteran railroad executives.

"They are both undermining the confidence of the uninformed and of the younger generation in our form of government and in free enterprise," Mr. Jeffers declared.

Jeffers, who made a lot of headlines by his blunt talk when he was Wartime Rubber Administrator, belabored Wallace for traipsing up and down the country crying that we should appease Russia, and characterized Young as the Wallace of the railroad industry in planting seeds of distrust.

He needled Young for "lolling around on the beaches of Florida, directing the destiny of his raliroad and attempting to control other railroads while entertaining the Duke and Duchess of Windsor."

He also criticized Young for claiming to be the originator of modern improvements in railroading, pointing out that the Union Pacific had sponsored such things as lightweight, high-speed passenger equipment, low cost fares, etc.

The entertainment program was really somep'n, starting out with a cocktail party Sunday night, June 8, with the Los Angeles section as hosts, and proceeding through tours of the movie studios and a scenic tour on Monday, with a special party with buffet supper and entertainment Monday night with the San Francisco section as hosts. On Tuesday there was a day at the races at the Hollywood Park track, a ladies fashion show at Bullock's, and then the dinner dance at the famed Earl Carroll's. On Wednesday there was swimming, tennis, boating, and ping-pong for those who desired it at the Long Beach Officers' Club, and a baseball game. On Thursday, for those who were still game, there was a deep sea fishing trip, and more sports at the Officers' Club.

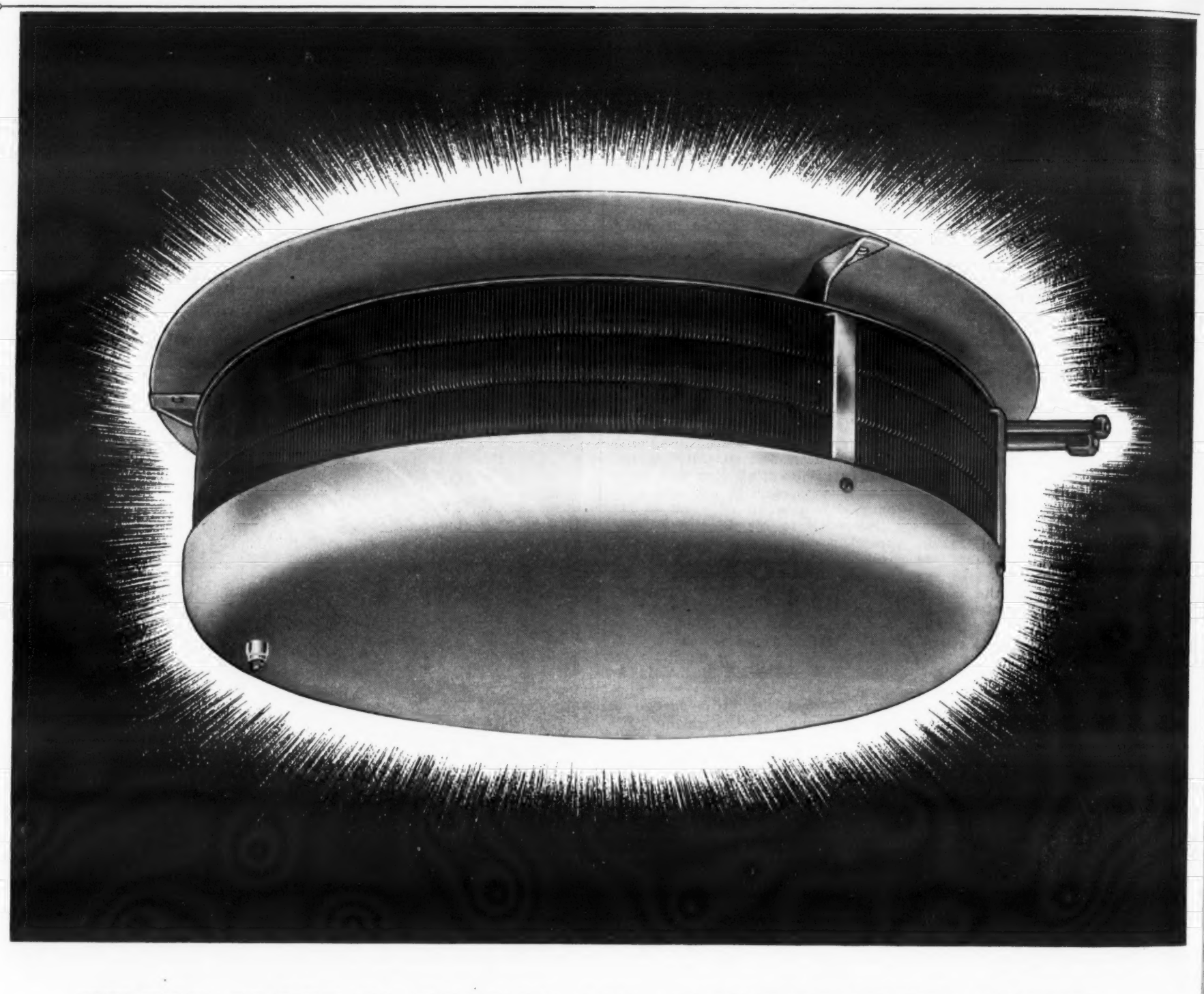
In fact, the entertainment was so exhilarating and continuous that the golfers never did get around to participating in the annual A.S.R.E. golf tournament, so those who won the various titles last year will hold them until 1948.

One innovation in the convention committee's arrangement was a separate pamphlet that provided information on places to eat, landmarks to see (from old Spanish missions to movie studios), procedures for everything from getting to radio broadcasts to renting cars, and a final offer:

"Want to visit 'Aunt Susie?' Ask a member of the Reception Committee and he will help you find her. Also, he can tell you where to eat, see a show, etc. HAVE A GOOD TIME—IT'S MAYBE LATER THAN YOU THINK."

Oh, yes—about that horse in the ballroom. Well, maybe it wasn't so unusual after all—except that you just don't kind of expect to see a horse in a ballroom.

The equine in question was part of the entertainment at the rootin', tootin', wild west party staged by the San Francisco section on Monday night.

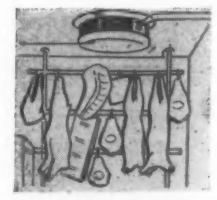


WHERE SPACE IS SCARCE AND REQUIREMENTS TOUGH,
install the ROUND SUPREME

BUSH

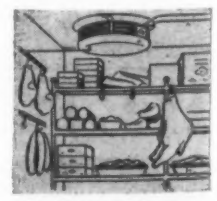
OUR FORTIETH YEAR

Here's a cooler that puts the cold where you want it . . . and leaves more usable storage space. The Bush Round Supreme Unit Cooler goes right up next to the ceiling, takes less than 13 inches of room height in most models.



Every part is built for rugged service and top performance under severe conditions. Airflow and coil temperature are balanced for maximum humidity.

And it's a honey to install or disassemble. Three hangars carry all the weight . . . surprisingly light for its capacity. The bottom pan is easily removed for inspection of the evaporator. Connections are brought well out from the casting for easy accessibility. Write today for complete data.



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